MONTHLY BULLETIN

OF THE

STATE BOARD OF HEALTH

OF

MASSACHUSETTS.

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ENTERED AT THE POST-OFFICE AT BOSTON AS SECOND-CLASS MATTER.

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ANNOUNCEMENT.

The official bulletin of the State Board of Health, which for twenty-three years has been issued as a weekly publication, will appear hereafter in the present form monthly. It is intended to present, in addition to the usual statistical data, such information concerning sanitary matters in general as may be deemed of public interest.

Residents of Massachusetts who desire to receive the publication regularly may do so on sending a written application therefor to the Secretary of the Board.

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WEEKLY RETURNS OF DEATHS FROM CITIES AND TOWNS OF MORE THAN 10,000 POPULATION.

The number of deaths *reported* each week does not correspond exactly with the number which *occurred* during that week, but the discrepancy is a slight one in most cases. The mortality reports contain the returns from cities and towns having a population of more than 10,000 inhabitants.

A supply of postal cards for making these returns will be sent to any town clerk or health officer.

WEEK ENDING JAN. 6, 1906.

CITIES AND TOWNS.	Population.[1] Estimated for 1906.	Reported Deaths in Each.	Deaths under Five Years.	DEATHS FROM—					
				Principal Infectious Diseases.	Acute Lung Diseases.	Phthisis.	Diphtheria.	Typhoid Fever.	Measles.
Boston,	602,528	234	59	39	50	22	2	2	4
Worcester,	130,171	25	8	2	5	–	–	–	–
Fall River,	105,943	35	17	5	11	2	–	–	–
Cambridge,	98,583	22	9	2	5	1	1	–	–
Lowell,	94,889	34	7	9	7	7	–	1	–
Lynn,	78,871	23	4	4	3	3	–	–	–
New Bedford,	77,006	26	11	2	7	2	–	–	–
Springfield,	76,255	15	4	1	2	–	–	1	–
Lawrence,	71,653	30	9	6	7	5	–	–	–
Somerville,	70,908	16	2	–	2	–	–	–	–
Holyoke,	50,824	8	3	1	3	–	–	–	–
Brockton,	49,511	9	3	1	–	–	–	–	–
Malden,	38,978	13	2	–	3	–	–	–	–
Salem,	37,970	12	4	2	–	–	1	–	–
Chelsea,	37,968	10	5	–	2	–	–	–	–
Haverhill,	37,962	12	2	3	2	1	–	–	–
Newton,	37,512	12	2	1	–	1	–	–	–
Fitchburg,	33,327	15	7	1	2	1	–	–	–
Taunton,	30,967	–	–	–	–	–	–	–	–
Everett,	30,173	11	4	1	–	1	–	–	–
Quincy,	28,995	7	1	–	2	–	–	–	–
Waltham,	26,881	11	1	1	2	–	1	–	–
Gloucester,	26,011	–	–	–	–	–	–	–	–
Pittsfield,	25,704	5	–	3	–	2	1	–	–
Brookline,	24,207	11	–	–	1	–	–	–	–
North Adams,	22,150	2	–	2	–	–	–	1	–
Chicopee,	20,402	5	2	–	2	–	–	–	–
Northampton,	20,175	5	–	3	–	2	–	–	–
Medford,	19,988	4	–	–	1	–	–	–	–
Beverly,	15,506	3	–	–	1	–	–	–	–
Hyde Park,	14,784	3	1	–	–	–	–	–	–

[1] The populations were estimated upon the rate of growth from 1900 to 1905. Those of Lowell, Taunton, Gloucester, North Adams and Clinton were allowed to stand as in 1905, having shown no increase during the five-year period.

WEEK ENDING JAN. 6, 1906 — *Concluded.*

CITIES AND TOWNS.	Population. Estimated for 1906.	Reported Deaths in Each.	Deaths under Five Years.	DEATHS FROM — Principal Infectious Diseases.	Acute Lung Diseases.	Phthisis.	Diphtheria.	Typhoid Fever.	Measles.
Newburyport,	14,715	3	1	1	1	1	–	–	–
Leominster,	14,712	–	–	–	–	–	–	–	–
Melrose,	14,578	3	–	–	1	–	–	–	–
Woburn,	14,432	8	1	–	1	–	–	–	–
Marlborough,	14,168	5	–	1	–	1	–	–	–
Westfield,	13,887	4	–	–	–	–	–	–	–
Peabody,	13,438	–	–	–	–	–	–	–	–
Revere,	13,168	2	1	1	–	–	–	–	–
Clinton,	13,105	1	1	–	–	–	–	–	–
Attleborough,	12,995	–	–	–	–	–	–	–	–
Adams,	12,775	–	–	–	–	–	–	–	–
Gardner,	12,267	–	–	–	–	–	–	–	–
Milford,	12,256	–	–	–	–	–	–	–	–
Weymouth,	11,638	2	–	1	–	1	–	–	–
Framingham,	11,598	3	–	–	–	–	–	–	–
Watertown,	11,597	3	–	–	–	–	–	–	–
Plymouth,	11,452	–	–	–	–	–	–	–	–
Southbridge,	11,206	2	1	–	–	–	–	–	–
Wakefield,	10,476	4	–	–	2	–	–	–	–
Webster,	10,280	–	–	–	–	–	–	–	–

Recapitulation.

Total of reporting towns,	2,134,269	658	172	93	125	53	6	5	4

WEEK ENDING JAN. 13, 1906.

CITIES AND TOWNS.	Population. Estimated for 1906.	Reported Deaths in Each.	Deaths under Five Years.	DEATHS FROM — Principal Infectious Diseases.	Acute Lung Diseases.	Phthisis.	Diphtheria.	Typhoid Fever.	Measles.
Boston,	602,528	198	66	31	54	15	3	5	3
Worcester,	130,171	41	16	3	10	–	–	–	1
Fall River,	105,943	28	13	6	6	2	–	–	–
Cambridge,	98,583	19	5	3	4	1	–	–	1
Lowell,	94,889	38	11	6	8	4	–	1	–
Lynn,	78,871	13	2	4	–	2	–	1	–
New Bedford,	77,006	25	8	2	4	–	1	–	–
Springfield,	76,255	22	7	1	6	1	–	–	–
Lawrence,	71,653	28	12	2	7	–	–	1	–
Somerville,	70,908	14	4	5	3	4	–	–	–
Holyoke,	50,824	19	3	2	4	1	–	1	–
Brockton,	49,511	13	3	1	–	–	–	–	–
Malden,	38,978	13	9	–	3	–	–	–	–
Salem,	37,970	8	2	1	2	1	–	–	–
Chelsea,	37,968	16	5	4	3	2	1	1	–

WEEK ENDING JAN. 13, 1906 — *Concluded.*

CITIES AND TOWNS.	Population. Estimated for 1906.	Reported Deaths in Each.	Deaths under Five Years.	DEATHS FROM — Principal Infectious Diseases.	Acute Lung Diseases.	Phthisis.	Diphtheria.	Typhoid Fever.	Measles.
Haverhill,	37,962	11	1	3	–	1	2	–	–
Newton,	37,512	14	–	–	–	–	–	–	–
Fitchburg,	33,327	10	1	–	3	–	–	–	–
Taunton,	30,967	12	2	1	4	1	–	–	–
Everett,	30,173	12	3	2	–	2	–	–	–
Quincy,	28,995	7	1	1	–	1	–	–	–
Waltham,	26,881	6	1	1	1	1	–	–	–
Gloucester,	26,011	–	–	–	–	–	–	–	–
Pittsfield,	25,704	4	–	–	–	–	–	–	–
Brookline,	24,207	4	–	1	–	–	–	–	–
North Adams,	22,150	6	1	1	–	1	–	–	–
Chicopee,	20,402	7	2	2	2	1	–	–	–
Northampton,	20,175	8	2	1	–	1	–	–	–
Medford,	19,988	7	1	–	–	–	–	–	–
Beverly,	15,506	7	2	2	2	1	1	–	–
Hyde Park,	14,784	5	2	–	–	–	–	–	–
Newburyport,	14,715	1	–	1	–	–	–	–	–
Leominster,	14,712	–	–	–	–	–	–	–	–
Melrose,	14,578	6	2	1	2	1	–	–	–
Woburn,	14,432	6	1	2	2	–	–	–	–
Marlborough,	14,168	2	2	–	1	–	–	–	–
Westfield,	13,887	3	1	1	1	–	–	1	–
Peabody,	13,438	–	–	–	–	–	–	–	–
Revere,	13,168	4	1	1	–	–	–	1	–
Clinton,	13,105	2	–	2	–	2	–	–	–
Attleborough,	12,995	–	–	–	–	–	–	–	–
Adams,	12,775	–	–	–	–	–	–	–	–
Gardner,	12,267	–	–	–	–	–	–	–	–
Milford,	12,256	–	–	–	–	–	–	–	–
Weymouth,	11,638	5	–	1	–	1	–	–	–
Framingham,	11,598	2	–	–	1	–	–	–	–
Watertown,	11,597	2	–	–	–	–	–	–	–
Plymouth,	11,452	–	–	–	–	–	–	–	–
Southbridge,	11,206	4	2	2	–	1	–	–	–
Wakefield,	10,476	3	–	–	2	–	–	–	–
Webster,	10,280	–	–	–	–	–	–	–	–

Recapitulation.

Total of reporting towns,	2,165,236	655	194	97	135	48	8	12	5

Week ending Jan. 20, 1906.

Cities and Towns.	Population. Estimated for 1906.	Reported Deaths in Each.	Deaths under Five Years.	Deaths from — Principal Infectious Diseases.	Acute Lung Diseases.	Phthisis.	Diphtheria.	Typhoid Fever.	Measles.
Boston,	602,528	243	65	50	45	30	3	3	4
Worcester,	130,171	47	10	4	14	1	–	1	–
Fall River,	105,943	25	9	5	6	1	–	–	–
Cambridge,	98,583	34	5	8	7	6	–	1	–
Lowell,	94,889	32	10	4	5	2	–	–	–
Lynn,	78,871	19	4	4	4	3	1	–	–
New Bedford,	77,006	21	8	1	6	1	–	–	–
Springfield,	76,255	17	5	2	2	1	–	–	–
Lawrence,	71,653	25	9	3	9	–	2	–	–
Somerville,	70,908	24	7	2	3	1	–	–	–
Holyoke,	50,824	12	6	–	4	–	–	–	–
Brockton,	49,511	11	1	1	–	1	–	–	–
Malden,	38,978	8	3	2	–	2	–	–	–
Salem,	37,970	18	7	2	3	2	–	–	–
Chelsea,	37,968	9	1	2	1	2	–	–	–
Haverhill,	37,962	7	2	1	1	–	1	–	–
Newton,	37,512	8	–	1	1	1	–	–	–
Fitchburg,	33,327	8	–	1	2	1	–	–	–
Taunton,	30,967	13	1	3	–	3	–	–	–
Everett,	30,173	3	2	–	–	–	–	–	–
Quincy,	28,995	7	1	1	–	1	–	–	–
Waltham,	26,881	12	1	3	2	1	1	1	–
Gloucester,	26,011	–	–	–	–	–	–	–	–
Pittsfield,	25,704	2	1	–	–	–	–	–	–
Brookline,	24,207	–	–	–	–	–	–	–	–
North Adams,	22,150	7	1	2	–	1	1	–	–
Chicopee,	20,402	6	2	2	1	2	–	–	–
Northampton,	20,175	6	–	–	–	–	–	–	–
Medford,	19,988	3	–	–	–	–	–	–	–
Beverly,	15,506	4	–	1	1	1	–	–	–
Hyde Park,	14,784	4	1	–	–	–	–	–	–
Newburyport,	14,715	5	–	2	–	1	–	1	–
Leominster,	14,712	–	–	–	–	–	–	–	–
Melrose,	14,578	2	–	1	–	1	–	–	–
Woburn,	14,432	4	–	1	2	1	–	–	–
Marlborough,	14,168	2	–	–	–	–	–	–	–
Westfield,	13,887	4	2	1	1	–	–	–	1
Peabody,	13,438	–	–	–	–	–	–	–	–
Revere,	13,168	2	1	–	1	–	–	–	–
Clinton,	13,105	2	1	–	–	–	–	–	–
Attleborough,	12,995	–	–	–	–	–	–	–	–
Adams,	12,775	–	–	–	–	–	–	–	–
Gardner,	12,267	4	1	1	1	1	–	–	–
Milford,	12,256	–	–	–	–	–	–	–	–
Weymouth,	11,638	3	1	1	–	–	–	–	–
Framingham,	11,598	–	–	–	–	–	–	–	–
Watertown,	11,597	5	1	–	–	–	–	–	–
Plymouth,	11,452	–	–	–	–	–	–	–	–
Southbridge,	11,206	–	–	–	–	–	–	–	–
Wakefield,	10,476	3	–	2	1	2	–	–	–
Webster,	10,280	–	–	–	–	–	–	–	–

Recapitulation.

Total of reporting towns,	2,130,492	671	169	114	123	70	9	7	5

WEEK ENDING JAN. 27, 1906.

CITIES AND TOWNS.	Population. Estimated for 1906.	Reported Deaths in Each.	Deaths under Five Years.	DEATHS FROM— Principal Infectious Diseases.	Acute Lung Diseases.	Phthisis.	Diphtheria.	Typhoid Fever.	Measles.
Boston,	602,528	212	60	39	47	21	1	–	3
Worcester,	130,171	44	21	5	9	–	–	–	–
Fall River;	105,943	40	14	6	9	2	–	–	–
Cambridge,	98,583	26	10	3	6	2	1	–	–
Lowell,	94,889	34	10	4	6	1	–	1	1
Lynn,	78,871	31	8	4	6	3	–	–	–
New Bedford,	77,006	14	5	–	6	–	–	–	–
Springfield,	76,255	18	2	–	4	–	–	–	–
Lawrence,	71,653	30	12	4	10	2	–	1	1
Somerville,	70,908	19	6	1	4	1	–	–	–
Holyoke,	50,824	19	12	2	5	–	–	–	1
Brockton,	49,511	9	2	2	–	2	–	–	–
Malden,	38,978	–	–	–	–	–	–	–	–
Salem,	37,970	9	5	–	2	–	–	–	–
Chelsea,	37,968	15	2	–	4	–	–	–	–
Haverhill,	37,962	19	5	3	4	1	2	–	–
Newton,	37,512	9	3	1	–	–	–	–	1
Fitchburg,	33,327	7	2	1	3	1	–	–	–
Taunton,	30,967	12	1	2	1	2	–	–	–
Everett,	30,173	8	4	2	–	–	2	–	–
Quincy,	28,995	6	2	3	2	2	1	–	–
Waltham,	26,881	6	1	–	1	–	–	–	–
Gloucester,	26,011	–	–	–	–	–	–	–	–
Pittsfield,	25,704	8	1	1	–	1	–	–	–
Brookline,	24,207	4	2	–	1	–	–	–	–
North Adams,	22,150	5	1	–	2	–	–	–	–
Chicopee,	20,402	7	2	–	–	–	–	–	–
Northampton,	20,175	6	1	–	–	–	–	–	–
Medford,	19,988	7	–	1	1	1	–	–	–
Beverly,	15,506	8	3	–	3	–	–	–	–
Hyde Park,	14,784	5	1	1	1	1	–	–	–
Newburyport,	14,715	4	–	–	1	–	–	–	–
Leominster,	14,712	–	–	–	–	–	–	–	–
Melrose,	14,578	4	–	–	1	–	–	–	–
Woburn,	14,432	4	1	–	1	–	–	–	–
Marlborough,	14,168	3	2	1	–	1	–	–	–
Westfield,	13,887	–	–	–	–	–	–	–	–
Peabody,	13,438	–	–	–	–	–	–	–	–
Revere,	13,168	1	–	–	–	–	–	–	–
Clinton,	13,105	4	1	–	–	–	–	–	–
Attleborough,	12,995	–	–	–	–	–	–	–	–
Adams,	12,775	–	–	–	–	–	–	–	–
Gardner,	12,267	3	1	–	2	–	–	–	–
Milford,	12,256	–	–	–	–	–	–	–	–
Weymouth,	11,638	3	2	–	1	–	–	–	–
Framingham,	11,598	2	–	1	–	–	1	–	–
Watertown,	11,597	3	1	–	2	–	–	–	–
Plymouth,	11,452	–	–	–	–	–	–	–	–
Southbridge,	11,206	3	2	3	–	–	2	–	–
Wakefield,	10,476	3	–	–	–	–	–	–	–
Webster,	10,280	–	–	–	–	–	–	–	–

Recapitulation.

Total of reporting towns,	2,124,638	674	208	90	145	44	10	2	7

WEEKLY RETURNS OF CASES OF INFECTIOUS DISEASES.

DEATHS FROM INFECTIOUS DISEASES NOT SPECIFICALLY MENTIONED IN ABOVE TABLES DURING THE WEEKS OF JAN. 6, 13, 20 AND 27, 1906.

DISEASE.	Place.	WEEK ENDING—			
		Jan. 6	Jan. 13.	Jan. 20.	Jan. 27.
Cerebro-spinal meningitis,	Boston,	1	2	4	5
	Worcester,	1	–	1	5
	Cambridge,	–	–	1	–
	Lowell,	–	–	2	–
	Lynn,	1	1	–	–
	New Bedford,	–	1	–	–
	Lawrence,	1	–	–	–
	Somerville,	–	–	1	–
	Holyoke,	–	–	–	1
	Haverhill,	1	–	–	–
	Newton,	–	–	–	1
	Newburyport,	–	1	–	–
	Revere,	1	–	–	–
	Weymouth,	–	–	1	–
Scarlet fever,	Boston,	–	1	1	–
	Brockton,	–	1	–	–
	Salem,	1	–	–	–
Erysipelas,	Boston,	4	–	–	–
	Brockton,	1	–	–	–
	Woburn,	–	1	–	–
Whooping-cough,	Boston,	4	–	2	–
	Lowell,	–	1	–	–
	Lawrence,	–	1	–	–
	Holyoke,	1	–	–	–
	Brookline,	–	1	–	–
Influenza,	Haverhill,	1	–	–	–
	Northampton,	1	–	–	–
	Woburn,	–	1	–	–

CASES OF INFECTIOUS DISEASES REPORTED DURING THE WEEKS OF JAN. 6, 13, 20 AND 27, 1906.

[Under the provisions of section 52 of chapter 75 of the Revised Laws.]

	WEEK ENDING—			
	Jan. 6.	Jan. 13.	Jan. 20.	Jan. 27.
Small-pox,	–	–	–	–
Scarlet fever,	132	126	145	123
Diphtheria,	127	147	181	164
Measles,	562	388	822	653
Typhoid fever,	34	25	22	21
Cerebro-spinal meningitis,	7	8	8	11

MONTHLY REPORT ON INSPECTION OF FOOD AND DRUGS.

The following summary presents the results of the examinations of food and drugs made by the State Board of Health during the month of December, 1905: —

ARTICLES EXAMINED.	Number found to be of Good Quality.	Number adulterated or varying from the Legal Standard.	Total.	ARTICLES EXAMINED.	Number found to be of Good Quality.	Number adulterated or varying from the Legal Standard.	Total.
Milk,	111	72	183	Cider,	–	1	1
Butter,	6	1	7	Vanilla extract,	–	1	1
Cream,	3	–	3	Honey,	2	–	2
Lard,	13	1	14	Malt liquors,	7	7	14
Condensed milk,	2	–	2	Coffee,	2	1	3
Vinegar,	3	3	6	Cocoa,	1	–	1
Spices,	6	–	6	Hamburg steak,	1	4	5
Cream of tartar,	2	–	2	Sausages,	6	6	12
Table sauce,	–	1	1	Drugs,	67	26	93
Salt,	–	2	2				
Clams and oysters,	19	–	19	Totals,	251	126	377

From the above results it is not possible to draw correct conclusions as to the actual ratio of adulteration, since attention is paid chiefly to those articles which experience has shown to be most subject to adulteration.

PROSECUTIONS FOR VIOLATIONS OF THE LAW RELATING TO FOOD AND DRUGS.

Thirty-two convictions were secured during the month for selling adulterated food and drugs, as follows: —

No.	Name of Defendant.	Place.	Character of Article sold.
1	Mello Sanza,	Fall River,	Frankforts.
2	Michael Blake,	Fall River,	Frankforts.
3	Alfred Robinson,	Fall River,	Olive oil.
4	J. Wells Thompson,	Adams,	Olive oil.
5	Joseph F. O'Donnell,	Cambridge,	Olive oil.
6	Fred. S. Reed,	Fall River,	Frankforts.
7	Fred S. Reed,[1]	Fall River,	Extract lemon.
8	Isaac F. Row,	Boston,	Hamburg steak.
9	William C. O'Connor,	Boston,	Maple syrup.
10	William N. Coe,	Pittsfield,	Milk.
11	Baptiste Allession,	Pittsfield,	Milk.
12	Frank Lochr,	Pittsfield,	Milk.
13	Herbert L. King,	Pittsfield,	Hamburg steak.
14	Geo. D. Lamberton,	Pittsfield,	Renovated butter.
15	Chas. E. Wood,	Taunton,	Frankforts.
16	Charles Woodlin,	Watertown,	Milk.
17	Domnick Raymond,	Watertown,	Milk.
18	James Newsome,	Fall River,	Sausage.
19	Joseph A. Dennis,	Fall River,	Sausage.
20	Joseph Harrison,	Fall River,	Sausage.
21	Fred. S. Reed,	Fall River,	Sausage.
22	Michael T. Hirdner,	Fall River,	Sausage.
23	William C. O'Connor,	Boston,	Cider.
24	George Tallarico,	North Adams,	Butter.
25	Geeshen Rudnick,	North Adams,	Mustard.
26	Frank J. Gilday,	Everett,	Tincture iodine.
27	Charles H. Howard,	Everett,	Olive oil.
28	Benj. F. Bradbury,	Boston,	Olive oil.
29	Geo. B. Lawton,	Taunton,	Hamburg steak.
30	Herbert R. Bateman,	North Adams,	Hamburg steak.
31	Peter D. Platz,	North Adams,	Sausage.
32	Paul Varlanina,	Charlestown,	Sausage.

[1] Appealed.

Fines imposed, $512.

The samples of drugs found to be adulterated were aqua ammoniæ, capsicum, oleum limonis, oleum olivæ, spiritus camphoræ, spiritus frumenti, and tinctura iodi.

The cities and towns in which samples were collected, were: Boston, Taunton, North Adams, Everett, Malden, Fall River, Salem, Lowell, Lynn, Cambridge, Somerville, Randolph, Milford, Pittsfield, Springfield, Newton, Brockton, New Bedford, Leominster and Chelsea.

LIST OF ADULTERATED FOOD, ETC., FOR DECEMBER, 1905.

Results of Analyses of Certain Articles of Food (required by Chapter 272 of the Acts of 1902).

Number of Sample.	Character of Sample.	Brand, or Name of Manufacturer, Wholesaler or Producer.	Results of Analyses.
–	Malt liquor,	E. S. Pierce & Co., Worcester,	Preserved with salicylic acid.
–	Malt liquor,	Thos. J. Donaher & Co., Worcester,	Preserved with salicylic acid.
–	Malt liquor,	D. J. Donahue & Co., Worcester,	Preserved with salicylic acid.
–	Malt liquor,	J. W. McKean & Co., Worcester,	Preserved with salicylic acid.
–	Malt liquor,	P. McLoughlin, Worcester,	Preserved with salicylic acid.
–	Malt liquor,	M. F. O'Day, Worcester,	Preserved with salicylic acid.
2451 N,	Malt liquor,	C. H. Evans & Sons Cream Ale,	Preserved with sulphurous acid.
2515 N,	Hamburg steak,	Springfield Public Market, Springfield,	Preserved with sulphurous acid.
8482 L,	Westminster sauce,	T. T. Grossmith, London, Alart & McGuire, agents, U. S. A.,	Preserved with benzoic acid.
2599 N,	Milk,	G. R. Shurtleff, Brockton,	9.87 per cent. total solids; contains added water.
8736 L,	Milk,	Peter F. Sullivan, Lowell,	11.06 per cent. total solids; colored with annatto.
8484 L,	Olive oil,	D. Amones & Co., Boston,	Cotton-seed oil.
8496 L,	Olive oil,	J. W. Patch & Co., Boston,	Cotton-seed oil.
8618 L,	Olive oil,	Dunbar's Drug Store, Taunton,	Cotton-seed oil.
2405 N,	Olive oil,	R. E. Willard & Son, Pittsfield,	Cotton-seed oil.
2393 N,	Olive oil,	Walter A. Dewire, Pittsfield,	Cotton-seed oil.
2459 N,	Olive oil,	J. M. Nelson, Lynn,	Cotton-seed oil.
8528 L,	Olive oil,	Theodore Metcalf Company, Boston,	Large admixture of cotton-seed oil.
8578 L,	"Water-white vanilla",	Theodore Metcalf Company, Boston,	Admixture of coumarin; absence of vanilla resins.
8582 L,	Brandy,	Theodore Metcalf Company, Boston,	Artificially colored; residue largely sugar.
2303 N,	Brandy,	F. Porter, Randolph,	Artificially colored; residue largely sugar.
2311 N,	Brandy,	McAuliffe's Pharmacy, Randolph,	Artificially colored; residue largely sugar.
2313 N,	Whiskey,	McAuliffe's Pharmacy, Randolph,	Artificially colored; residue largely sugar.
2305 N,	Whiskey,	F. Porter, Randolph,	Artificially colored; residue largely sugar.
2457 N,	Whiskey,	No. 3 Rye Company, Lynn,	Artificially colored; residue largely sugar.

INSPECTION OF DAIRIES.

During the month of December, 1905, 171 dairies supplying milk for public sale in Massachusetts were examined by the Board's inspector in the following cities and towns: —

East Longmeadow,	15	Somers, Conn.,	15
Dunstable,	3	West Stafford, Conn.,	1
Dracut,	53	Tyngsborough,	17
Gloucester,	13	North Wilbraham,	6
Hampden,	31		
Lowell,	17	Total,	171

Of this number, those of the following-named persons were found to be conducted in such a sanitary manner as to warrant commendation, no objectionable conditions having been observed: —

E. B. Markham, East Longmeadow.
Ira Griswold, East Longmeadow.
John Delehanty, East Longmeadow.
Lyman Cole, Dunstable.
James Quirk, Dunstable.
Mrs. Jennie Estey, Dunstable.
R. D. Coburn, Dracut.
J. W. Peabody, Dracut.
John King, Dracut.
Benj. Beal, Dracut.
Henry Varnum, Dracut.
George R. Fox, Dracut.
Edward A. Stevens, Dracut.
Almon Richardson, Dracut.
Bryant Bros., Dracut.
A. H. Richardson, Dracut.
Charles McPhegretis, Holly Street, Gloucester.
George E. Lane, 7 Stanwood Street, Gloucester.
Howard P. Lane, 20 Gee Avenue, Gloucester.
C. I. Burleigh, Hampden.
Mrs. Harriet Chaffee, Hampden.
Thomas Ingham, Hampden.
James S. Roark, 360 Market Street, Lowell.
A. J. Bean, 212 Tenth Street, Lowell.
H. H. Davis, Varnum Avenue, Lowell.
Eugene Shaw, 439 Varnum Avenue, Lowell.
Wm. H. Hull Estate, 425 Varnum Avenue, Lowell.
H. Kibbe, Somers, Conn.
Michael Warga, Somers, Conn.
Eli Winship, Tyngsborough.
John Thompson, Tyngsborough.
John L. Hess, Tyngsborough.
Irving Gratz, Tyngsborough.
S. L. Livingston, Tyngsborough.
Elmer Twing, Tyngsborough.
George Wing, Tyngsborough.
P. Littlehale, Tyngsborough.

To the owners of the other 135 examined, letters were sent calling attention to the need of various sanitary improvements.

It is intended to publish in future issues the names of all whose dairies shall be found to conform to a reasonable sanitary standard, and also of those whose dairies were found to fulfill the requirements for commendation prior to Dec. 1, 1905. In the February number will be published the names of owners of dairies found to be satisfactory during the month of January, 1906, and then, first of all, those of the same class belonging in such of the above-mentioned cities and towns which were visited between March 1, 1905, when the work was begun, and Dec. 1905, during which time no names were published.

THE MILK SUPPLY OF GLOUCESTER.

The dairies supplying milk to the city of Gloucester have recently been examined by an agent of the Board as to their sanitary condition, with results as stated below.

Gloucester consumes about 7,400 quarts of milk daily, of which about 200 quarts are brought from Rockport, 1,200 from Ipswich, 2,200 from Essex and 400 from other neighboring towns; the balance, 3,400 quarts, being raised within the limits of the city. It is said that the supply is 50 per cent. larger in summer, on account of the influx of summer visitors.

That portion of the supply which is brought in from Essex is the product of 36 farms, 13 of which were found to be in such satisfactory condition as to require no letter calling attention to the need of improvement of any kind. Incidentally, 10 dairies, the product of which is disposed of within the town of Essex, were examined, and found to be free from objectionable conditions.

Following are the names of the owners of the 23 dairies found to be suitable in all respects for the production of milk for public sale: —

E. B. Andrews.	Zeno Elwell, Jr.	Charles E. Low.	Jacob O. Perkins.
Elias Burleigh.	Smith Finney.	David E. Low.	Albert Story.
Gardner Burnham.	George Fuller.	Lyman Low.	Story Brothers.
Nehemiah Burnham.	Horace C. Haskel.	Charles Lufkin.	Town Farm.
Choate Cogswell.	Irving King.	Francis McCleaves.	Clifford White.
Zeno P. Elwell.	James Lovett.	Charles E. Perkins.	

Five Essex dairies supplying milk to Manchester and 1 supplying milk to Essex were found to need some improvement. The total number of Essex dairies examined was 29.

Of the dairies situated in Rockport, 20 were examined and reported upon. Of this number, 3, owned by John J. Poole, Joseph Poole and George F. Shepherd, were found to be free from objectionable conditions. The product of 5 of the unsanitary dairies is sold in Gloucester; that of the remaining 12 is sold in Rockport.

Fourteen of the Ipswich dairies whose product goes to Gloucester were examined. Those of the following four persons were found to be properly conducted: —

C. G. Brown.	W. F. Kinsman.	George E. Smith.	John Sullivan.

The milk produced in Gloucester for public sale is derived from 74 dairies, 21 of which were found to be free from objectionable conditions. These belong to the following persons: —

Adison Allen.
Mary B. Andrews.
Ephraim Andrews.
George K. Barnard.
T. Cole & Co.
A. E. Comeau.
S. Davis.
Charles Harvey.
George James.
George E. Lane.
Howard P. Lane.
Edward S. Lufkin.
William McCormick.
Charles McPhegretis.
John E. Nelson.
John Nutting.
Alfred Thurston.
Richard Towle.
William Towle.
Edward Younger.
William Younger.

From the above it will be seen that in the investigation of the sources of the Gloucester milk supply 160 dairies were visited and examined, and that more than two-thirds of the number were found with conditions to which it was necessary to draw the attention, not only of the respective owners, but also of the local boards of health of Gloucester, Rockport, Manchester and Essex, with the request that the latter bodies, in the event of non-compliance with the suggestions to make needed changes, should take steps to exclude the milk from sale within their respective municipalities.

The letters concerning these 109 dairies called attention to 443 faults. Cow-barns to the number of 100 needed a general cleaning and whitewashing. In 77 cases the cows were in such dirty condition that their milk could not be drawn without becoming contaminated with detachable filth. In 96 the milk was handled in the barn near the cows, rather than in a proper room apart. In 44 barns there was an accumulation of manure which required removal. Twenty-nine barns were insufficiently lighted, and 3 were overcrowded. In 13 barns horses were kept next to the cows, without any dividing partition. In 7 cases pigs were similarly kept, instead of in a separate building away from the barn. Three cow-yards needed cleaning, and no fewer than 45 contained large stagnant pools of liquid manure, which it was advised should be drained away. In one case the owner bedded his cows in horse manure. In 4 the milk room in which the milk was stored was in a dirty state. In 4 barns the privy was situated directly behind the cows, and in 1, the floor was made to serve as a privy. In 2 barns swill was stored near the cows, and in 2 it was stored in the yard. Other objectionable conditions to which attention was drawn included the necessity of draining the barn; the airing of milk cans near the privy; the storage of milk in close contact with kerosene oil; the storage of rotten vegetables near milk; the free run of poultry in the tie-up; the use of the barn for slaughtering cattle; and the contamination of wells by surface drainage.

OUTBREAK OF DIPHTHERIA IN FALMOUTH.

During the period July–November, 1905, 23 cases of diphtheria were reported to the board of health of Falmouth. Investigation by an agent of the State Board of Health showed that these cases were distributed among

11 families, and that 14 of them were evidently primary, the others being due to contact infection at home. Owing to the prevalence of the disease among the pupils of the grammar school, this school was closed by order of the local board of health. The families in which the disease was present were quarantined, and release from this condition was conditional on the return of a negative report on bacteriological examination of the patient's throat. Following these precautions the outbreak subsided, and finally died out completely.

It is probable that the occurrence of diphtheria in this town continued through a period of many weeks largely because of the existence of cases of mild infection among children, not recognized in some instances at least by reason of failure to employ bacteriological examination as an aid in diagnosis.

THE TUBERCULOSIS EXHIBITION.

The "Exhibition Illustrative of the Means and Methods for the Treatment and Prevention of Tuberculosis," authorized by the Legislature of 1905, was held by the State Board of Health in Horticultural Hall, Boston, from Dec. 28, 1905, to Jan. 7, 1906. The attendance was sufficiently large to demonstrate the great popular interest in this most important movement, and to justify the appropriation made; the exhibition being visited by 25,953 persons, or an average of 2,359 for each of the eleven days during which it was open.

Special meetings, thirteen in number, held in connection with the exhibition, were attended by more than 5,000 persons. These meetings were addressed by numerous speakers, who presented the different aspects of tuberculosis, and discussed the ways in which both individual and organized effort may work for the prevention of the disease. It was made clear that education is a most important factor in the matter, and that great good may be accomplished by spreading the knowledge that fresh air, sunlight and nourishing food are the basis of its only successful treatment; and that the maintenance of good sanitary conditions in the home, workshop and public meeting places goes very far towards preventing its spread.

Lantern-slide demonstrations were given on seven evenings, in the course of which the bacteriology, the pathology and the treatment of the disease were presented and explained by those especially qualified to discuss these aspects of the question.

The exhibition was visited by persons from all parts of the Commonwealth and by many local boards of health, and it is evident that a widespread interest was awakened in the purpose for which it was held.

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OF

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WEEKLY RETURNS OF DEATHS FROM CITIES AND TOWNS OF MORE THAN 10,000 POPULATION.

The number of deaths *reported* each week does not correspond exactly with the number which *occurred* during that week, but the discrepancy is a slight one in most cases. The mortality reports contain the returns from cities and towns having a population of more than 10,000 inhabitants.

A supply of postal cards for making these returns will be sent to any town clerk or health officer.

WEEK ENDING FEB. 3, 1906.

CITIES AND TOWNS.	Population, 1 Estimated for 1906.	Reported Deaths in Each.	Deaths under Five Years.	DEATHS FROM— Principal Infectious Diseases.	Acute Lung Diseases.	Phthisis.	Diphtheria.	Typhoid Fever.	Measles.
Boston,	602,528	233	59	47	42	30	4	2	2
Worcester,	130,171	26	12	4	5	1	–	–	1
Fall River,	105,943	32	18	9	6	3	1	–	–
Cambridge,	98,583	41	6	10	9	4	2	–	1
Lowell,	94,889	38	14	7	11	3	1	1	–
Lynn,	78,871	18	3	–	3	–	–	–	–
New Bedford,	77,006	22	7	3	7	–	1	–	–
Springfield,	76,255	17	3	–	5	–	–	–	–
Lawrence,	71,653	29	10	1	10	–	–	–	–
Somerville,	70,908	22	5	1	5	1	–	–	–
Holyoke,	50,824	10	3	–	1	–	–	–	–
Brockton,	49,511	13	3	2	3	2	–	–	–
Malden,	38,978	17	5	4	2	3	–	–	1
Salem,	37,970	13	4	4	–	2	1	–	–
Chelsea,	37,968	16	6	7	2	4	1	–	–
Haverhill,	37,962	9	1	2	1	1	1	–	–
Newton,	37,512	6	3	1	3	–	–	–	1
Fitchburg,	33,327	11	5	–	5	–	–	–	–
Taunton,	30,967	6	1	3	–	2	1	–	–
Everett,	30,173	7	3	2	–	–	1	1	–
Quincy,	28,995	5	–	4	1	3	1	–	–
Waltham,	26,881	3	1	–	1	–	–	–	–
Gloucester,	26,011	–	–	–	–	–	–	–	–
Pittsfield,	25,704	6	1	2	3	1	–	1	–
Brookline,	24,207	4	–	1	–	–	–	–	–
North Adams,	22,150	3	2	–	–	–	–	–	–
Chicopee,	20,402	5	1	1	1	1	–	–	–
Northampton,	20,175	1	–	–	–	–	–	–	–
Medford,	19,988	3	–	–	–	–	–	–	–
Beverly,	15,506	5	2	–	1	–	–	–	–
Hyde Park,	14,784	1	–	1	–	1	–	–	–

[1] The populations were estimated upon the rate of growth from 1900 to 1905. Those of Lowell, Taunton, Gloucester, North Adams and Clinton were allowed to stand as in 1905, having shown no increase during the five-year period.

WEEK ENDING FEB. 3, 1906 — *Concluded.*

CITIES AND TOWNS.	Population. Estimated for 1906.	Reported Deaths in Each.	Deaths under Five Years.	DEATHS FROM — Principal Infectious Diseases	Acute Lung Diseases.	Phthisis.	Diphtheria.	Typhoid Fever.	Measles.
Newburyport,	14,715	8	1	1	–	1	–	–	–
Leominster,	14,712	–	–	–	–	–	–	–	–
Melrose,	14,578	2	1	1	1	–	–	–	–
Woburn,	14,432	7	1	1	2	–	–	1	–
Marlborough,	14,168	6	–	1	–	–	–	–	–
Westfield,	13,887	2	–	1	–	–	1	–	–
Peabody,	13,438	–	–	–	–	–	–	–	–
Revere,	13,168	3	–	–	–	–	–	–	–
Clinton,	13,105	3	1	–	–	–	–	–	–
Attleborough,	12,995	–	–	–	–	–	–	–	–
Adams,	12,775	–	–	–	–	–	–	–	–
Gardner,	12,267	3	2	–	1	–	–	–	–
Milford,	12,256	–	–	–	–	–	–	–	–
Weymouth,	11,638	3	1	–	–	–	–	–	–
Framingham,	11,598	–	–	–	–	–	–	–	–
Watertown,	11,597	2	1	–	–	–	–	–	–
Plymouth,	11,452	–	–	–	–	–	–	–	–
Southbridge,	11,206	2	1	1	–	1	–	–	–
Wakefield,	10,476	3	–	2	–	2	–	–	–
Webster,	10,280	–	–	–	–	–	–	–	–
Recapitulation.									
Total of reporting towns,	2,166,028	666	187	124	131	66	16	6	6

WEEK ENDING FEB. 10, 1906.

CITIES AND TOWNS.	Population. Estimated for 1906.	Reported Deaths in Each.	Deaths under Five Years.	DEATHS FROM — Principal Infectious Diseases	Acute Lung Diseases.	Phthisis.	Diphtheria.	Typhoid Fever.	Measles.
Boston,	602,528	244	65	58	40	37	4	2	5
Worcester,	130,171	39	11	3	15	2	–	–	–
Fall River,	105,943	32	12	9	9	3	2	–	–
Cambridge,	98,583	33	12	6	7	3	1	–	–
Lowell,	94,889	32	16	2	12	–	1	–	–
Lynn,	78,871	31	9	3	9	3	–	–	–
New Bedford,	77,006	26	11	5	1	1	3	–	–
Springfield,	76,255	21	4	2	4	2	–	–	–
Lawrence,	71,653	23	12	3	5	2	–	–	–
Somerville,	70,908	16	7	3	4	2	–	–	–
Holyoke,	50,824	24	7	4	2	–	1	–	–
Brockton,	49,511	16	6	1	4	1	–	–	–
Malden,	38,978	5	1	1	–	1	–	–	–
Salem,	37,970	17	6	–	4	–	–	–	–
Chelsea,	37,968	12	3	2	2	2	–	–	–

WEEK ENDING FEB. 10, 1906 — *Concluded.*

CITIES AND TOWNS.	Population. Estimated for 1906.	Reported Deaths in Each.	Deaths under Five Years.	DEATHS FROM — Principal Infectious Diseases.	Acute Lung Diseases.	Phthisis.	Diphtheria.	Typhoid Fever.	Measles.
Haverhill,	37,962	14	6	3	1	2	1	–	–
Newton,	37,512	11	3	1	3	1	–	–	–
Fitchburg,	33,327	–	–	–	–	–	–	–	–
Taunton,	30,967	14	4	3	4	3	–	–	–
Everett,	30,173	5	–	1	–	1	–	–	–
Quincy,	28,995	4	1	1	1	1	–	–	–
Waltham,	26,881	13	3	3	4	1	1	–	–
Gloucester,	26,011	–	–	–	–	–	–	–	–
Pittsfield,	25,704	8	2	3	1	3	–	–	–
Brookline,	24,207	5	1	1	1	1	–	–	–
North Adams,	22,150	5	–	1	–	1	–	–	–
Chicopee,	20,402	5	3	1	1	–	–	–	–
Northampton,	20,175	9	2	2	–	–	2	–	–
Medford,	19,988	3	1	–	2	–	–	–	–
Beverly,	15,506	4	1	–	1	–	–	–	–
Hyde Park,	14,784	2	–	–	–	–	–	–	–
Newburyport,	14,715	6	1	–	1	–	–	–	–
Leominster,	14,712	–	–	–	–	–	–	–	–
Melrose,	14,578	2	1	–	–	–	–	–	–
Woburn,	14,432	–	–	–	–	–	–	–	–
Marlborough,	14,168	6	1	–	1	–	–	–	–
Westfield,	13,887	–	–	–	–	–	–	–	–
Peabody,	13,438	–	–	–	–	–	–	–	–
Revere,	13,168	5	1	2	–	1	–	1	–
Clinton,	13,105	5	1	1	–	–	–	–	–
Attleborough,	12,995	–	–	–	–	–	–	–	–
Adams,	12,775	–	–	–	–	–	–	–	–
Gardner,	12,267	3	3	–	–	–	–	–	–
Milford,	12,256	–	–	–	–	–	–	–	–
Weymouth,	11,638	3	1	–	1	–	–	–	–
Framingham,	11,598	–	–	–	–	–	–	–	–
Watertown,	11,597	–	–	–	–	–	–	–	–
Plymouth,	11,452	–	–	–	–	–	–	–	–
Southbridge,	11,206	6	–	–	1	–	–	–	–
Wakefield,	10,476	–	–	–	–	–	–	–	–
Webster,	10,280	–	–	–	–	–	–	–	–

Recapitulation.

Total of reporting towns,	2,110,628	709	218	125	141	74	16	3	5

WEEK ENDING FEB. 17, 1906.

CITIES AND TOWNS.	Population. Estimated for 1906.	Reported Deaths in Each.	Deaths under Five Years.	DEATHS FROM— Principal Infectious Diseases.	Acute Lung Diseases.	Phthisis.	Diphtheria.	Typhoid Fever.	Measles.
Boston,	602,528	217	61	38	44	26	4	2	3
Worcester,	130,171	50	14	4	8	2	–	–	–
Fall River,	105,943	45	24	15	11	8	2	–	–
Cambridge,	98,583	16	4	5	3	4	1	–	–
Lowell,	94,889	32	13	5	7	1	–	–	1
Lynn,	78,871	25	6	1	5	–	–	–	–
New Bedford,	77,006	31	8	10	4	6	4	–	–
Springfield,	76,255	19	5	–	4	–	–	–	–
Lawrence,	71,653	31	12	7	6	3	–	–	–
Somerville,	70,908	23	6	5	2	2	2	1	–
Holyoke,	50,824	18	6	3	2	1	[a]	–	–
Brockton,	49,511	15	2	2	–	2	–	–	–
Malden,	38,978	13	5	2	2	1	1	–	–
Salem,	37,970	12	3	–	–	–	–	–	–
Chelsea,	37,968	18	4	–	2	–	–	–	–
Haverhill,	37,962	14	4	3	3	1	2	–	–
Newton,	37,512	11	4	–	2	–	–	–	–
Fitchburg,	33,327	13	4	3	4	2	1	–	–
Taunton,	30,967	6	1	1	1	1	–	–	–
Everett,	30,173	7	2	1	–	1	–	–	–
Quincy,	28,995	10	4	2	3	–	2	–	–
Waltham,	26,881	8	–	1	2	1	–	–	–
Gloucester,	26,011	–	–	–	–	–	–	–	–
Pittsfield,	25,704	6	1	1	1	–	–	–	–
Brookline,	24,207	9	2	1	2	1	–	–	–
North Adams,	22,150	7	1	2	2	1	–	–	–
Chicopee,	20,402	3	1	1	2	–	1	–	–
Northampton,	20,175	1	–	–	–	–	–	–	–
Medford,	19,988	10	1	1	1	–	–	–	–
Beverly,	15,506	9	3	1	1	1	–	–	–
Hyde Park,	14,784	2	1	–	–	–	–	–	–
Newburyport,	14,715	3	1	–	–	–	–	–	–
Leominster,	14,712	–	–	–	–	–	–	–	–
Melrose,	14,578	7	3	2	3	1	–	–	1
Woburn,	14,432	5	1	–	2	–	–	–	–
Marlborough,	14,168	4	2	1	–	1	–	–	–
Westfield,	13,887	5	2	–	2	–	–	–	–
Peabody,	13,438	–	–	–	–	–	–	–	–
Revere,	13,168	3	1	–	–	–	–	–	–
Clinton,	13,105	4	–	–	–	–	–	–	–
Attleborough,	12,995	–	–	–	–	–	–	–	–
Adams,	12,775	–	–	–	–	–	–	–	–
Gardner,	12,267	5	2	–	2	–	–	–	–
Milford,	12,256	–	–	–	–	–	–	–	–
Weymouth,	11,638	4	–	1	1	1	–	–	–
Framingham,	11,598	2	–	–	–	–	–	–	–
Watertown,	11,597	2	–	–	–	–	–	–	–
Plymouth,	11,452	–	–	–	–	–	–	–	–
Southbridge,	11,206	3	1	2	–	1	1	–	–
Wakefield,	10,476	3	1	–	–	–	–	–	–
Webster,	10,280	–	–	–	–	–	–	–	–
Recapitulation.									
Total of reporting towns,	2,177,626	731	216	121	134	69	21	3	5

WEEK ENDING FEB. 24, 1906.

CITIES AND TOWNS.	Population. Estimated for 1906.	Reported Deaths in Each.	Deaths under Five Years.	DEATHS FROM— Principal Infectious Diseases.	Acute Lung Diseases.	Phthisis.	Diphtheria.	Typhoid Fever.	Measles.
Boston,	602,528	261	63	49	56	34	6	–	2
Worcester,	130,171	47	14	4	13	2	–	–	–
Fall River,	105,943	–	–	–	–	–	–	–	–
Cambridge,	98,583	36	15	6	7	3	–	–	–
Lowell,	94,889	42	12	8	10	6	–	–	1
Lynn,	78,871	28	6	5	3	3	–	–	–
New Bedford,	77,006	20	6	6	3	5	–	1	–
Springfield,	76,255	16	4	2	1	1	1	–	–
Lawrence,	71,653	33	13	7	5	3	–	1	1
Somerville,	70,908	18	2	2	3	1	–	–	–
Holyoke,	50,824	29	9	6	3	3	1	–	–
Brockton,	49,511	13	1	3	1	3	–	–	–
Malden,	38,978	16	3	2	3	2	–	–	–
Salem,	37,970	19	5	–	4	–	–	–	–
Chelsea,	37,968	11	6	1	2	1	–	–	–
Haverhill,	37,962	10	2	1	3	–	–	1	–
Newton,	37,512	12	1	–	–	–	–	–	–
Fitchburg,	33,327	13	5	1	1	1	–	–	–
Taunton,	30,967	–	–	–	–	–	–	–	–
Everett,	30,173	3	–	1	–	1	–	–	–
Quincy,	28,995	5	–	2	1	2	–	–	–
Waltham,	26,881	6	1	–	1	–	–	–	–
Gloucester,	26,011	–	–	–	–	–	–	–	–
Pittsfield,	25,704	5	–	1	–	1	–	–	–
Brookline,	24,207	8	1	–	1	–	–	–	–
North Adams,	22,150	5	–	–	2	–	–	–	–
Chicopee,	20,402	8	2	3	2	2	–	–	–
Northampton,	20,175	13	5	1	2	1	–	–	–
Medford,	19,988	6	1	–	–	–	–	–	–
Beverly,	15,506	7	1	1	–	1	–	–	–
Hyde Park,	14,784	5	1	–	–	–	–	–	–
Newburyport,	14,715	7	2	1	4	–	–	–	1
Leominster,	14,712	–	–	–	–	–	–	–	–
Melrose,	14,578	1	–	1	–	1	–	–	–
Woburn,	14,432	5	–	3	1	1	–	–	–
Marlborough,	14,168	5	–	–	–	–	–	–	–
Westfield,	13,887	5	1	–	2	–	–	–	–
Peabody,	13,438	–	–	–	–	–	–	–	–
Revere,	13,168	3	2	1	1	–	–	–	–
Clinton,	13,105	4	1	–	–	–	–	–	–
Attleborough,	12,995	–	–	–	–	–	–	–	–
Adams,	12,775	–	–	–	–	–	–	–	–
Gardner,	12,267	8	5	2	2	1	–	–	–
Milford,	12,266	–	–	–	–	–	–	–	–
Weymouth,	11,638	4	–	–	1	–	–	–	–
Framingham,	11,598	–	–	–	–	–	–	–	–
Watertown,	11,597	3	–	1	1	1	–	–	–
Plymouth,	11,452	–	–	–	–	–	–	–	–
Southbridge,	11,206	3	–	–	1	–	–	–	–
Wakefield,	10,476	2	–	1	–	–	–	–	–
Webster,	10,280	–	–	–	–	–	–	–	–
Recapitulation.									
Total of reporting towns,	2,029,118	745	190	122	140	80	8	3	5

WEEKLY RETURNS OF DEATHS FROM INFECTIOUS DISEASES.

DEATHS FROM INFECTIOUS DISEASES NOT SPECIFICALLY MENTIONED IN ABOVE TABLES DURING THE WEEKS OF FEB. 3, 10, 17 AND 24, 1906.

DISEASE.	Place.	WEEK ENDING —			
		Feb. 3.	Feb. 10.	Feb. 17.	Feb. 24.
Cerebro-spinal meningitis,	Boston,	2	2	–	1
	Worcester,	2	–	–	2
	Fall River,	1	–	–	–
	Lowell,	1	–	3	1
	Cambridge,	3	–	–	2
	Lawrence,	–	–	1	1
	Chelsea,	2	–	–	–
	Waltham,	–	1	–	–
	Revere,	–	–	–	1
	North Adams,	–	–	1	–
	Medford,	–	–	1	–
	Clinton,	–	1	–	–
	Lynn,	–	–	–	1
Scarlet fever,	Boston,	1	–	–	–
	Lynn,	–	–	1	1
	Lawrence,	–	1	–	–
	Brookline,	1	–	–	–
Erysipelas,	Boston,	1	1	3	–
	Worcester,	–	1	–	–
	Somerville,	–	–	–	–
	Holyoke,	–	1	–	–
Whooping-cough,	Boston,	2	3	–	3
	Worcester,	–	–	1	–
	Fall River,	–	1	1	–
	Cambridge,	–	1	–	–
	Lowell,	1	–	–	–
	Lawrence,	1	–	1	–
	Salem,	1	–	–	–
	Holyoke,	–	1	1	1
Influenza,	Chicopee,	–	1	–	–
	Woburn,	–	–	–	1
	Gardner,	–	–	–	1

WEEKLY RETURNS OF CASES OF INFECTIOUS DISEASES.

CASES OF INFECTIOUS DISEASES REPORTED DURING THE WEEKS OF FEB. 3, 10, 17 AND 24, 1906.

[Under the provisions of section 52 of chapter 75 of the Revised Laws.]

	WEEK ENDING—			
	Feb. 3.	Feb. 10.	Feb. 17.	Feb. 24.
Small-pox,	–	–	–	1
Scarlet fever,	103	115	100	93
Diphtheria,	131	147	174	132
Measles,	646	790	758	824
Typhoid fever,	22	14	17	27
Cerebro-spinal meningitis,	1	3	5	10

MONTHLY REPORT ON INSPECTION OF FOOD AND DRUGS.

The following summary presents the results of the examinations of food and drugs made by the State Board of Health during the month of January, 1906: —

ARTICLES EXAMINED.	Number found to be of Good Quality.	Number adulterated or varying from the Legal Standard.	Total.	ARTICLES EXAMINED.	Number found to be of Good Quality.	Number adulterated or varying from the Legal Standard.	Total.
Milk,	134	159	293	Cocoa,	1	–	1
Butter,	10	2	12	Coffee,	2	–	2
Cheese,	2	–	2	Hamburg steak,	8	4	12
Condensed milk,	1	–	1	Lambs' tongues,	3	4	7
Cream,	1	–	1	Sausages,	16	4	20
Lard,	36	3	39	Tripe,	2	–	2
Spices,	13	–	13	Mince meat,	1	–	1
Baking powder,	1	–	1	Beef roll,	1	–	1
Cream of tartar,	4	–	4	Lemon extract,	1	–	1
Gluten,	–	4	4	Raspberry extract,	1	–	1
Honey,	5	–	5	Almond extract,	1	–	1
Maple syrup,	4	6	10	Grape juice,	1	–	1
Catsup,	1	3	4	Malt liquors,	6	4	10
Cider,	1	–	1	Drugs,	33	11	44
Clams and oysters,	10	–	10				
Canned goods,	12	–	12	Totals,	312	204	516

From the above results it is not possible to draw correct conclusions as to the actual ratio of adulteration, since attention is paid chiefly to those articles which experience has shown to be most subject to adulteration.

The samples of drugs found to be adulterated were: calx chlorata, cera flava, extractum glycyrrhizæ, extractum zingiberis fluidum, oleum olivæ, spiritus camphoræ and tinctura iodi.

The cities and towns in which samples were collected were: Haverhill, Brockton, Quincy, Braintree, Rockland, South Framingham, Natick, Chelsea, Woburn, Winchester, Medford, Abington, Whitman, Cambridge, Hyde Park, Salem, Brookline, Boston, Worcester, Taunton, Lowell, Charlton, Lawrence, Beverly, Newton, Topsfield, Waltham, Somerville, Arlington and Milton.

PROSECUTIONS FOR VIOLATIONS OF THE LAW RELATING TO FOOD AND DRUGS.

Twenty-five convictions were secured during the month of January, 1906, for selling adulterated food and drugs, as follows: —

No.	Name of Defendant.	Place.	Character of Article sold.
1	William D. Halward,	Boston,	Lard.
2	James R. Gardner,	Taunton,	Hamburg steak.
3	Mardios M. Martin,	Boston,	Hamburg steak.
4	Peter F. Sullivan,	Lowell,	Milk.
5	Peter F. Sullivan,	Lowell,	Milk, colored.
6	Peter Mann,	Lowell,	Milk.
7	James J. McCausland,	Lowell,	Milk.
8	John F. Burns,	Lowell,	Milk.
9	John J. Meagher,	Lowell,	Milk.
10	Geo. H. Shurtleff,	Brockton,	Milk.
11	Frank C. Rumery,	Rockland,	Renovated butter.
12	Marcelon Sirvana,	Boston,	Sausage.
13	Walter A. De Wire,	Pittsfield,	Olive oil.
14	Robert K. Willard,	Pittsfield,	Olive oil.
15	Fred. C. Rice,	Pittsfield,	Ale.
16	Walter E. Barry,	Quincy,	Hamburg steak.
17	Mathew Kniskern,	Boston,	Hamburg steak.
18	Willard E. Tufts,	Springfield,	Milk.
19	Frank A. Walters,	Springfield,	Milk.
20	William May,	Springfield,	Hamburg steak.
21	Daniel J. Cashman,	Springfield,	Frankforts.
22	Harvey B. Frost,	Springfield,	Frankforts.
23	Manuel O. Johnson,	Boston,	Hamburg steak.
24	Guregh G. Baboran,	Boston,	Catsup.
25	Alexander Gillis,	Boston,	Milk.

Fines imposed, $618.

RESULTS OF ANALYSES OF CERTAIN ARTICLES OF FOOD (REQUIRED BY CHAPTER 272 OF THE ACTS OF 1902).

Number of Sample.	Character of Sample.	Brand, or Name of Manufacturer, Wholesaler or Producer.	Results of Analyses.
9158 L,	"Top Notch" evaporated cream.	Van Camp Packing Company, Indianapolis, Ind.,	Ordinary milk, evaporated to about one-half its volume; in no sense are they cream.
9160 L,	"Highland Brand" evaporated cream.	Helvetia Milk Condensing Company, Highland, Ill.,	
9174 L,	"Gold Brand" evaporated cream.	Hires Condensed Milk Company, Philadelphia, Pa.,	
2737 N,	Ale,	E. S. Pierce Company, Worcester, Mass.,	Preserved with salicylic acid.
2741 N,	Ale,	P. McLaughlin, Worcester, Mass.,	Preserved with salicylic acid.
2929 N,	Ale,	Donaher's On The Square, Worcester, Mass.,	Preserved with salicylic acid.
2691 N,	Walker's maple syrup,	Walker Extract Company, Chelsea, Mass.,	75 per cent. refined cane sugar syrup; formula erroneous.
2411 N,	"Victor Brand" maple syrup.	Saville Somes & Co., Boston, Mass.,	80 per cent. refined cane sugar syrup; formula erroneous.
2919 N,	"Victor Brand" maple syrup.	Simpson Spring Company, South Easton, Mass.,	70 per cent. refined cane sugar syrup; formula erroneous.
2411 N,	"Victor Brand" maple syrup.	Simpson Spring Company, South Easton, Mass.,	85 per cent. refined cane sugar syrup; no formula.
9170 L,	Lambs' tongues,	Geo. D. Brown & Co., Boston, Mass.,	Preserved with boric acid.
16	"Imperial Brand" tomato catsup.	Winsor Fruit Company, West Virginia,	Preserved with benzoic acid.
54	"Bordeaux" tomato catsup.	Standard Packing Company, Indianapolis, Ind.,	Preserved with benzoic acid.
146	"Middlesex" catsup,	F. M. Bell & Co., Lowell, Mass.,	Preserved with benzoic acid.
9038 L,	Olive oil,	Copley Square Pharmacy, Boston, Mass.,	Large admixture of sesame oil.
84	Milk,	W. F. Estabrook, Woburn, Mass.,	11.23 per cent. total solids; contains added water.
9068 L,	Milk,	Otis D. Horn, Charlton, Mass.,	10.78 per cent. total solids; contains added water.

INSPECTION OF DAIRIES.

During the month of January, 1906, 337 dairies supplying milk for public sale in Massachusetts were examined by the Board's inspector in the following cities and towns: —

Auburn,	36	Rockport,	20
Essex,	50	Rutland,	41
Gloucester,	60	Watertown,	1
Holden,	44	Worcester,	31
Ipswich,	14		
Oxford,	11	Total,	337
Paxton,	28		

Of this number, 104, or 30 per cent., were found to be conducted in such a way as to warrant commendation, no objectionable conditions having been observed. The clean dairies were distributed as follows: —

Auburn,	13	Oxford,	2
Essex,	23	Paxton,	8
Gloucester,	21	Rockport,	3
Holden,	15	Rutland,	15
Ipswich,	4	Worcester,	7

The names of the owners of these dairies are as follows: —

Auburn.

F. B. White.
F. P. Knowles.
Fred Cheney.
Mrs. Eva E. Waters.
J. H. Whittaker.
C. A. Howe.
J. E. Tilson.
O. P. Pond.
Joseph P. Eaton.
John C. McInness.
Wm. R. Burgess.
H. M. Marcy.
McQuade Brothers.

Essex.

These names were published in the January number.

Gloucester.

These names were published in the January number.

Holden.

H. M. Harvey.
W. M. Chamberlain.
O. W. Packard.
Frank Parker (Chaffinville).
Johnson & Nelson (Chaffinville).
Oscar Carlson (Chaffinville).
C. J. Erickson (Chaffinville).
Otto F. Anderson (Chaffinville).
Charles Chamberlain (Quinapoxet).
John Rivers (Quinapoxet).
Charles J. Ball (Quinapoxet).
Samuel Moulton (Jefferson).
Frank Newell (Dawson).
Thomas W. Howe (Dawson).
C. Fisher (Dawson).

Ipswich.

These names were published in the January number.

Oxford.

Dayton Hudson. L. Huckins.

Paxton.

Alfred E. Magoon.
E. G. Richards.
Mrs. A. Mayall.
J. Johnson.
Nils Jacobson.
G. W. Cowden.
H. Streeter.
G. H. Harrington.

Rockport.

These names were published in the January number.

Rutland.

Edward Wheeler.
C. B. Dean.
George L. Glazier.
O. E. Bowen.
Charles J. Campbell.
Alfred Norton.
W. C. Temple.
A. C. Wheeler.
B. W. Potter.
H. H. King.
C. W. Gilbert.
L. M. Nordquist.
P. Delehanty.
William E. Healey.
Mrs. C. G. Stevens.

Worcester.

E. P. Curtis, Burncourt Street.
C. H. Ellsworth, Summit Street.
E. S. Douglass, Brattle Street.
Charles E. Bond, Lincoln Street.
J. W. Bennett, Salisbury Street.
J. L. Ellsworth, Salisbury Street.
Charles Stowell, Forrest Street.

In the January issue the names of owners of clean dairies examined during December in East Longmeadow, Dunstable, Dracut, Gloucester, Hampden, Lowell, Somers, Conn., and Tyngsborough were made public. In order to complete the list for each of the above-named places the names of the following are published in this issue, their dairies having been examined prior to December, 1905 : —

East Longmeadow.

J. Lamarche. Wilmot Family.

Dunstable.

Dennis Connolly.

Somers, Conn.

H. Perry.
E. C. Allen.
Fred Wheeler.
Henry Wardwell.
Mrs. M. Davis.
Edward Courtney.
S. Sever.
D. Pulaski.
George Hunt.

THE SANITARY IMPORTANCE OF CLEAN MILK.*

BY THE SECRETARY OF THE BOARD.

Of the many subjects which of late have engrossed the attention of sanitarians and economists, none surpasses in importance these two: the enormous mortality of infants below the age of one year, and the progressively diminishing birth-rates obtaining among the intelligent and well-to-do classes everywhere. Both are established facts, as every vital-statistician will testify. Concerning the various sociologic conditions responsible for the latter alarming condition, I propose to enter upon no discussion. We must recognize that that which has not inaptly been termed "race suicide" is "a condition and not a theory," and we can hardly hope that either academic discussion or public exhortation will be productive of any change for the better; but there is one phase of the subject which, except from sanitarians, receives far too little attention, and that is, the importance of preserving the lives of the diminishing number of those that are born. It is all very well to urge the importance of bringing larger numbers of infants into the world, but what can it avail if, after they are born, they are permitted to die forthwith? How much more does it profit a community to add to its numbers a hundred infants and lose twenty of them through easily preventable causes alone, than to add ninety, one-tenth less, and protect them from these same preventable causes of death? The statesman and economist urge the importance of large families; the sanitarian, while agreeing, suggests that we save the infant lives that now are sacrificed. He can but show the way, and urge upon the body politic the necessity of its co-operation.

Infantile death-rates are expressed as the annual number of deaths under one year of age to each thousand births. In most countries these rates are appallingly large. For example: In Germany, according to Professor Dunbar of Hamburg, of about 2,000,000 infants born yearly, about 400,000, or one-fifth, are lost in their first year, — a rate for the whole empire of 200. In the month of October, 1904, no fewer than 8 German cities had an infantile death-rate of more than 333. In Munich, during the period 1871 to 1903, inclusive, the rate was never less than 293; once it reached 419; and the average was 324. In Alsace-Lorraine the figures are far more creditable: in 1901, 172; in 1902, 179; but even these figures are far too high.

In England and Wales, according to the report of the Registrar-General

* Reprinted from the "Boston Medical and Surgical Journal" of Feb. 1, 1906.

for 1903, the infantile mortality, during the decennial period 1893–1902, averaged 152 for the whole country; but the rate for cities and towns was about twice that for the rural districts. The report for 1904 gives it as 146, against 132 in 1903. There was an increase in the 76 great towns, although the climatic conditions of the summer did not favor any prolonged prevalence of the usual main cause of death; and during the past summer there was in London, at least, a greatly increased mortality, every hospital for children being filled to its utmost capacity, and many cases being turned away.

In England, in the third quarter of a recent year, no fewer than 52,837 infants died, mainly in the great towns, in 33 of which the mortality rate was 275, against 225 for the country at large.

In Birmingham, according to Dr. J. Robertson, M.O.H., more than 3,000 infants under one year of age die annually, against 35 at each yearly period between five and twenty-five years; and, while the general death-rate shows a steady decline, the infantile rate shows no improvement.

In our own country it is possible to obtain but limited information concerning the extent to which infants are permitted to die off, because of the failure of all but 9 States and the District of Columbia to provide for registration of the vital statistics. The registration area comprises the New England States, New York, New Jersey, Michigan and the District of Columbia (Pennsylvania has recently joined). Outside of this area, however, many cities and towns maintain a statistical office of some sort, and their returns are therefore available.

According to the twelfth census, the District of Columbia had in 1900 an infant mortality rate of 274.5. The highest rate obtaining among the nine registration States was that of Rhode Island, 197.9; next came Massachusetts, with 177.8; then New Hampshire, with 172; New Jersey, with 167.4; New York, with 159.8; Connecticut, with 156.8; and the others with a comparatively respectable showing, but yet too high.

Among the registration cities and towns of the country was 1 (Charleston, S. C.) with a rate of more than 400 (419.5). There were 8 with rates exceeding 300: 1 in Maine, 1 in Massachusetts (Fall River, 304.7), 2 in Virginia, 2 in Georgia, 1 in Alabama and 1 in Florida. Having rates between 250 and 300 were: 2 in New Hampshire, 1 in Massachusetts (Lowell, 275.5) and 7 in the south. No fewer than 37 had rates between 200 and 250, and 4 of these are Massachusetts cities: Salem (247.7), Lawrence (246.5), New Bedford (222.9) and Holyoke (203.4). Of the 48 having rates of 175 to 200, 2 belong to Massachusetts, — Boston and Cambridge, — and these almost belong in the group preceding, their rates being respectively 194.1 and 186.5. We have, then, in Massachusetts 8 cities with this discreditable infant mortality rate, ranging from 186.5 to 304.7.

When we ask to what these high rates are due, it must be answered that the causes are many and varied; but there is one cause that stands out most prominently, and that is, the substitution of artificial, or bottle, feeding for the natural process of suckling. This is not the time to consider the many other preventable and non-preventable causes of infantile mortality, and I will therefore confine myself to this single and most important one.

Wherever the connection between these enormous losses and the method of feeding is investigated, the result of the inquiry is the same, and is condemnatory of artificial feeding. From various reports of British medical officers of health, recently submitted, the following figures are taken as indicative of what might be expected in the way of results wherever the subject may be investigated. In one district, of 2,860 infants, 1,960 were suckled and 840 were bottle-fed; and of the former but 2 died of diarrhœal disease, while of the latter the number was 59. But for the beneficent influence of the natural method of feeding, the 1,960 should have shown, instead of a diarrhœal mortality of 2, one of 138, reckoning from the rate obtaining among the 840 that were bottle-fed. Thus the danger of death from diarrhœal disease was 70 times as great among the bottle-fed. In another district 96 infants died during seven weeks of the summer of 1905, and 75 of them died of diarrhœal disease; nearly every one of these was bottle-fed. In still another, of all the infants that died of diarrhœal disease between the ages of six and twelve months during an entire year, 89 per cent. were bottle-fed. And practically all reports in which infantile mortality is discussed mention improper feeding as the one great cause.

An investigation on a large scale was that of the methods followed in feeding the 4,075 infants that died in Munich during the year 1903. This revealed the fact that 3,395, or 83.3 per cent., of the number were bottle-fed.

And now may be asked the question, What is there about bottle-feeding that makes such a difference? Of minor importance is this fact, — that cow's milk is different in character and composition from that of the mother; but of tremendous importance is this other, — that ordinary market milk is, almost everywhere, a polluted, dirty food.

Where does the dirt come from? And just what is meant by the expression "*dirty milk*"? Dirty milk is that which contains large numbers of bacteria, due to disease or to lack of care in production, handling and storage at the farm, during transportation and in the home. The matters containing the seeding bacteria get into the milk at various stages, and nature attends to the proper rate of bacterial multiplication. In the first place, testimony from all over the world, collected during the past few months, indicates that almost everywhere the great majority of cow stables are kept in such a condition of filth as to be unfit places for the production

of milk for human consumption. The premises are dirty; the cows, often diseased, are never cleaned; the milkers are dirty in person and slovenly in their ways; the milking pails and other vessels are not properly cleaned; the milk is not properly cooled, handled and stored; the water supply is quite likely to be of more than doubtful character, and exposed to the possibility of contamination with the exciting causes of infective disease.

Under ordinary circumstances, pollution of milk begins before the operation of milking is fairly under way. If the pail is clean before the milker takes his seat, it does not long remain so, for almost at once dirty hairs and particles of dry cow dung become dislodged from the animal and drop into it, and they continue to fall during the entire process. A gram of cow dung is not a very large amount, so far as volume and weight go; but Warington has calculated that, coming from a hay-fed cow, it will contain about 165,000,000 bacteria, and therefore a small fraction of a gram in a pail of milk will contribute a very respectable number of millions of bacteria as a starter. Under favoring conditions of temperature no further additions would be required to make the milk a good vehicle for cholera infantum. But it does not get off so easily: there are many other possibilities between the cow and the consumer, and others in the home of the latter.

The householder in the city takes everything on faith. He knows nothing of the conditions at the farm, or whether the cows are diseased; he knows nothing of the conditions obtaining during transportation; he does not see the disgusting tasting process to which the peddler subjects each can before its final acceptance, — the lapping of stoppers, the dipping out with a spoon which passes from can to mouth and back to the next can, while the taster spits about him on all sides that which he has tasted; sometimes the hand itself is dipped into can after can, and lapped by the expert in tasting.

The consumer does not see the process of dumping the milk into large receptacles, visited by swarms of dirty flies that have but just before been paying visits to all manner of vile refuse in the vicinity. If they fall in, instead of merely tracking dirt in on their feet, so much larger a contribution do they make to the flora of the milk.

The consumer does not see the horse stable in which the milk is put up for family trade and stored until the following morning, when it will be delivered so early as to satisfy the demand for milk right from the farm. If he buys it in a shop, he knows nothing of the manner in which it is stored and handled by the additional middleman.

All the customer knows, as a rule, is this: that the milk is delivered at his house in nice glass bottles early in the morning, — and he lets it go at that.

Concerning the exciting causes of the various diarrhœal diseases common to bottle-fed infants, we have reason to believe that they are numerous. Among them is Klein's *B. enteritidis sporogenes*, which is not yielded

by cow dung, but is found in horse dung, and is believed by many English authorities to play a great part in the pollution of milk in the home, being blown about in the air of cities, and gaining access to milk exposed, as it often is, to the air. Of this one is likely to say: "That's a small danger. Our milk comes in bottles, and goes right into the ice chest." But it is not a small danger; pollution of milk with horse manure is more than a possibility, — it is more than probable; for, strange as it may seem, horse manure is very commonly used as a bedding material for cows, and right here in Massachusetts, too. Thus in many cases the milk may receive from the body of the cow particles of two kinds of dung at the same time.

Another cause of cholera infantum lies in the streptococci and other organisms contained in the pus contributed to the milk of cows suffering with garget, which is the most common of cattle diseases. But this is by no means the only disturbance which is caused in the consumer of pus as a beverage, for numerous extensive outbreaks of septic sore throat in persons of all ages have been traced directly to gargety cows. Concerning other bacteria which cause these various forms of milk poisoning no discussion is at present necessary.

From what has been said, it must not be inferred that dirty milk is a menace to the health of infants under one year of age alone. It is among those of that age that the death-rate is most appalling, but among children of all ages up to five years the number of deaths due to the same cause is inexcusable and criminal. Nor must it be inferred that those that escape death are wholly free from the deleterious effects of filth, for the child that recovers from cholera infantum may suffer permanent injury to its constitution, in spite of recovery. And it is not alone in behalf of infants and children that the sanatarian pleads for a clean milk supply; the invalid and convalescent are also to be considered, and the strong and well besides. Dirty milk is responsible for more outbreaks of typhoid fever than is polluted water in a State which, like Massachusetts, guards its water-sheds from infection. In this Commonwealth within the past year nearly every one of the outbreaks of that disease of sufficient magnitude to cause public concern have been traced to insanitary dairies, where pre-existing cases had occurred, the patients being cared for perhaps by those who handled the milk, or themselves doing the milking and handling before taking to their beds, or after apparent recovery.

I have not thus far referred to the danger which recent governmental commissions have agreed attends the use of milk from tuberculous cows. In view of all the evidence adduced, it is clear that tuberculosis, especially of the digestive tract, can be, and is, transmitted by such milk, especially if the disease in the cow has become localized in the udder. And such milk, with its pus and bacilli, is certainly to be classed as dirty.

Against the production and sale of diseased and ordinarily dirty milk it

appears to be difficult to arouse intelligent public interest. The death of a few children from diphtheria or scarlet fever causes grave apprehension in a public that views with apparent equanimity wholesale murder through a polluted milk supply and will not lift its hand nor loosen its pocket to encourage those whose clean product must compete in the market with that of the slovenly. Clean milk costs more to the producer than dirty milk, for it means increased care and greater outlay for help; but, as an intelligent milkman wrote me recently, the public seems to prefer milk plus cow dung, at eight cents a quart, to clean milk not so flavored, at nine cents.

It is a crime to add substances commonly classed as poisons to milk or other food, even though the amount added be incapable of causing any apparent disturbance of health; but it appears to be quite legitimate to add the generators of the far more potent bacterial poisons in manure and other filth.

What is the cure for dirty milk? Some say that if we sterilize or pasteurize, all will be well. But why injure the biologic properties of milk by heating? Why permit the pollution of milk by excrement, then kill the bacteria by heat, and swallow the mixture? Why not prevent, rather than cure? Why drink fecal matter and pus, even though it be sterilized?

The remedy is simple. We should insist upon clean milk, and be willing to pay for it; encourage the production of a sanitary supply, and refuse to buy excrement and pus; buy of the man whose supply costs a cent or two more per quart to produce, and let the sloven learn that cleanliness is an asset, and filth a heavy load to carry.

VOTE OF THE MASSACHUSETTS CATTLE OWNERS' ASSOCIATION ON SANITARY MILK.

At a meeting of the Massachusetts Cattle Owners' Association, held in Gardner, Mass., on January 30, the following vote was passed: —

Voted, That, in the opinion of the Massachusetts Cattle Owners' Association, the products of the dairy, when pure and clean, constitute the most healthful, nutritious and economical article of food on the market to-day; and in order that the quality of these products may be improved and the demand therefor increased, we favor the observance of all reasonable sanitary rules and regulations for the production and care of milk, which is the basis of all the dairy products.

We believe the following rules and regulations are reasonable, and should be observed by the farmers of the State; and we pledge ourselves to co-operate with the State Board of Health in their enforcement.

Every stable should be kept clean, well ventilated and lighted. No hogs should be kept under the stable or in close proximity thereto, unless separated by a tight partition. If manure is stored under the stable, the stable door should be tight

and the manure cellar suitably ventilated. No dirty or wet bedding should be used. The stable windows and walls should be cleaned often. The cows should be kept clean and properly fed, and in no case should decomposed or mouldy food be used.

No person suffering from a disease should be allowed to milk or to handle the milk. The milk of a diseased cow should not be used upon the farm or sent to market, and the milk of a healthy cow should not be used for twenty days before calving nor for three to five days afterward. Milk cans should not be filled in the stable or kept there over night; but they should be filled and kept in a clean, airy and wholesome place, outside the stable.

A can of warm milk should not be closed until it has been well cooled in tanks of fresh, cold water. Nothing should be put into milk or cream to prevent it from souring.

No bloody or stringy milk should be used for any purpose.

All milk or cream kept for use on the market should be clean and pure. All milk pails, cans and other dairy utensils should be kept clean, and sterilized before milk is put into them.

AN OUTBREAK OF TYPHOID FEVER IN ADAMS.

During the latter part of the summer of 1905 typhoid fever became prevalent in Adams, and in the autumn assumed the proportions of a mild epidemic.

Prior to June, 1905, no cases of this disease had been reported to the local board of health since 1902, when a small epidemic occurred. One case was reported in June and 2 in the earlier part of September, 1905. Between August 23 and December 7, 74 cases were reported; and upon investigation, 20 unreported cases were discovered. The occurrence of these cases was as follows: —

	Cases.		Cases
August,	7	October,	51
September,	22	December,	2

Four additional cases were reported to the State Board of Health on December 13, subsequent to the visits of its representative, which were the last to be so reported, and at that date the epidemic presumably became extinct. The total number of cases reported and otherwise ascertained was 102.

At the request of the local board of health, the agent of the State Board of Health visited the town and investigated as to the source and the mode of spread of infection.

The cases were widely distributed over the town, and occurred among all classes of people. Of the 98 cases investigated, 46 were males and 52 were females; 32 per cent. were under seventeen years of age, 51 per cent. were

from seventeen to thirty years of age, and 7 per cent. were over thirty. Rather more than 50 per cent. of the adults were mill operatives.

A large proportion of the persons affected either habitually used or had access to the public water supply. In some instances, however, the patient had used well water only. This was true of certain cases in outlying districts, unsupplied with town water. The mill operatives had access, in addition to public supply, to the private water supply in certain of the mills. In the case of one, at least, of these mills, this supply was the only one available upon certain days in August, when, owing to the shutting off of one of the principal mains, necessitated by alterations, the pressure in the distributing mains and service pipes of the public supply was very greatly lowered.

Investigation of the public water supply failed to disclose any facts proving this to be a means for the spread of infection. No cases of typhoid fever were found upon the water-sheds of either of the sources of public supply, and the same is true of the private supply above referred to. This latter is not intended for drinking purposes, and is unprotected from pollution. No cases of typhoid fever were, however, known to exist upon the shores of the stream yielding this supply.

Thirty-five per cent. of the cases occurred among the customers of one milk dealer, a number equivalent to about one-tenth of these customers. Upon investigation, it was found that a fatal case of typhoid fever had occurred in the family of one of the producers furnishing milk to the dealer; the patient was a child, who died September 29. There was no proof that this child infected the supply of milk from this source, although opportunity probably existed. This supply was excluded from the market about October 1. Seventeen other milk dealers among their customers had from one to nine cases of typhoid fever. In ten instances the patient obtained milk from private sources.

Careful study of the facts gained by investigation fails to show conclusively that either the public water supply or any of the sources of milk supply was the means whereby the contagion was spread. While it is true that cases of the disease were widely distributed throughout the town, it is likewise true that neither in numbers nor in thoroughness of distribution does this coincide with an epidemic from water-borne contagion. The fact that not over 35 per cent. of all cases were supplied with milk from one source, appears to relieve this source from the responsibility of the entire epidemic. The further fact, however, that a larger proportion of the users of this supply were infected than was the case with the users of milk from other sources, suggests that this milk may have carried contagion, infection occurring from the case of the boy above referred to.

In this epidemic, upon the evidence of the facts at hand, it is clearly impossible to assert that infection of either water or milk supply was the cause.

ANALYSIS OF A FEW PROPRIETARY PREPARATIONS.

The following samples have been subjected to chemical analysis in the laboratory during the past month: Gloria Tonic, Herbal Dew, Bromo Seltzer and Damschinsky's Hair Dye.

Herbal Dew, advertised as a cure for catarrh and asthma, and examined with special reference to the presence of cocaine, was found to be free from that alkaloid, and to contain 53.10 per cent., by volume, of alcohol. It has the smell and taste of rum, and contains some bitter principle.

Bromo Seltzer. — This was found to contain potassium bromide, sodium bicarbonate, citric acid, tartaric acid and acetanilid.

Damschinsky's Liquid Hair Dye was submitted with special reference to the presence of lead. It was found to contain a salt of copper, but no lead.

Gloria Tonic. — This was found to consist of sugar of milk and corn-starch, with a small amount of ground leaves, resembling those of senna.

NOTES.

Tuberculosis Exhibitions.

The recent exhibition held in Horticultural Hall, Boston, appears to have aroused great interest on the part of local authorities throughout the State, and many applications have been received for the use of the material shown, the greater part of which, however, was loaned to the State Board of Health by different organizations, and is now being shown in various large cities of other States. A collection of objects suitable for less extensive but very instructive exhibitions has been made by the Boston Association for the Relief and Control of Tuberculosis, and can be secured by application to Mr. Alexander M. Wilson, 8 Beacon Street, Boston. Arrangements have already been made for exhibitions in Lynn, Lowell, Worcester, Springfield, North Adams and Fall River. The cost of a week's maintenance is $100, in addition to rent of quarters.

A Physician's Experience with Acetanilid.

The physicians of Racine, Wis., recently gave a banquet for the members of a medical society in an adjoining town. The afternoon preceding the banquet one of the visiting physicians took several powders of acetanilid and caffein, and immediately before the banquet — about 9 P.M. — he took one or two more. In all he took about 18 grains of acetanilid. As the banquet progressed he gradually became cyanotic, but seemed normal otherwise until collapse occurred. The heart action was very weak, and

there were nausea, vomiting, diarrhœa and intense cyanosis. He was at once put to bed in the hotel in which the banquet was held, and several physicians worked over him all night. Powerful stimulants were applied, but he was not considered out of danger till the next morning, and even then there was still some cyanosis. He was not able to go home till after thirty-six hours had elapsed. — JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION, March 3, 1906.

POISONING FROM MRS. WINSLOW'S SOOTHING SYRUP.

Dr. G. M. Cummins, Hamilton, O., reports a case of poisoning from Mrs. Winslow's Soothing Syrup, which occurred in his practice.

Oct. 24, 1905, he was called to see a male twin child, aged three and one-half months, suffering from cholera infantum. He ordered a restricted diet, and prescribed as follows: —

℞.	Bismuthi subnitratis, ...	gr. xii	75
	Pepsini (pure), ...	gr. xl 2	60
	Aquæ q. s. ad., ...	℥iss 45	

Sig.: Shake and give 1 teaspoonful every hour.

At 12 o'clock that night he was called and told the baby could not be aroused, that it had been sleeping for an hour or more and had almost stopped breathing. A neighbor had suggested giving the child a dose of Mrs. Winslow's Soothing Syrup, and it had been given two doses of one-half teaspoonful each, one-half hour apart. On examination Dr. Cummins found the pupils contracted to the size of a pinhead, pulse very slow and respirations four a minute. He diagnosed opium poisoning. Dr. Cook was called in consultation, and after four hours' work they succeeded in bringing the patient around all right. Dr. Cummins states that he has no doubt that this was a case of opium poisoning from the morphine contained in the soothing syrup. — IBIDEM.

SHELLFISH, SEAWEED AND SEWAGE.

According to Professor Letts of Belfast, Ire., the growth of the seaweed *Ulva latissima* in any quantity appears to require the presence of sewage, and hence the attachment of this weed to mussels, etc., may be accepted as presumptive evidence of pollution. Dr. J. T. C. Nash relates in the "British Medical Journal," Feb. 24, 1906, that certain mussels showing such attachments were examined by him and found to yield large numbers of the characteristic sewage bacteria.

"CONDENSED CREAM."

A number of concerns are advertising very extensively what they are pleased to call "condensed cream," which, however, is in no sense cream, but merely unsweetened condensed milk. Complete analyses of all of these so-called creams will be published in a later number of the "Bulletin."

STATE LIBRARY OF MASSACHUSETTS

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OF THE

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OF

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WEEKLY RETURNS OF DEATHS FROM CITIES AND TOWNS OF MORE THAN 10,000 POPULATION.

The number of deaths *reported* each week does not correspond exactly with the number which *occurred* during that week, but the discrepancy is a slight one in most cases. The mortality reports contain the returns from cities and towns having a population of more than 10,000 inhabitants.

A supply of postal cards for making these returns will be sent to any town clerk or health officer.

WEEK ENDING MARCH 3, 1906.

CITIES AND TOWNS.	Population. 1 Estimated for 1906.	Reported Deaths in Each.	Deaths under Five Years.	DEATHS FROM—					
				Principal Infectious Diseases.	Acute Lung Diseases.	Phthisis.	Diphtheria.	Typhoid Fever.	Measles.
Boston,	602,528	242	72	44	57	29	5	1	3
Worcester,	130,171	51	15	2	13	1	–	–	–
Fall River,	105,943	47	19	12	9	5	–	1	–
Cambridge,	98,583	26	10	7	4	3	3	–	–
Lowell,	94,889	49	23	9	13	3	1	–	1
Lynn,	78,871	23	3	1	–	1	–	–	–
New Bedford,	77,006	20	8	3	5	1	–	–	–
Springfield,	76,255	24	6	3	2	1	1	–	–
Lawrence,	71,653	28	10	7	7	5	–	–	–
Somerville,	70,908	16	3	4	5	3	–	–	–
Holyoke,	50,824	24	6	5	6	3	–	–	–
Brockton,	49,511	12	2	2	–	2	–	–	–
Malden,	38,978	6	2	1	2	1	–	–	–
Salem,	37,970	11	4	2	4	2	–	–	–
Chelsea,	37,968	16	5	–	2	–	–	–	–
Haverhill,	37,962	12	1	–	5	–	–	–	–
Newton,	37,512	3	–	–	–	–	–	–	–
Fitchburg,	33,327	13	5	1	1	1	–	–	–
Taunton,	30,967	8	1	1	–	–	–	1	–
Everett,	30,173	8	4	2	–	1	1	–	–
Quincy,	28,995	12	3	2	3	2	–	–	–
Waltham,	26,881	9	1	–	2	–	–	–	–
Gloucester,	26,011	8	3	1	1	1	–	–	–
Pittsfield,	25,704	7	–	3	–	3	–	–	–
Brookline,	24,207	6	–	–	2	–	–	–	–
North Adams,	22,150	5	1	–	2	–	–	–	–
Chicopee,	20,402	8	2	2	2	2	–	–	–
Northampton,	20,175	4	–	1	1	1	–	–	–
Medford,	19,988	3	–	–	–	–	–	–	–
Beverly,	15,506	5	–	–	–	–	–	–	–
Hyde Park,	14,784	4	2	–	–	–	–	–	–

[1] The populations were estimated upon the rate of growth from 1900 to 1905. Those of Lowell, Taunton, Gloucester, North Adams and Clinton were allowed to stand as in 1905, having shown no increase during the five-year period.

WEEK ENDING MARCH 3, 1906 — *Concluded.*

CITIES AND TOWNS.	Population. Estimated for 1906.	Reported Deaths in Each.	Deaths under Five Years.	DEATHS FROM— Principal Infectious Diseases.	Acute Lung Diseases.	Phthisis.	Diphtheria.	Typhoid Fever.	Measles.
Newburyport,	14,715	3	3	–	1	–	–	–	–
Leominster,	14,712	–	–	–	–	–	–	–	–
Melrose,	14,578	4	–	–	1	–	–	–	–
Woburn,	14,432	5	1	1	1	1	–	–	–
Marlborough,	14,168	1	–	–	–	–	–	–	–
Westfield,	13,887	7	–	1	–	1	–	–	–
Peabody,	13,438	–	–	–	–	–	–	–	–
Revere,	13,168	3	1	2	–	1	–	–	–
Clinton,	13,105	4	2	–	2	–	–	–	–
Attleborough,	12,995	–	–	–	–	–	–	–	–
Adams,	12,775	–	–	–	–	–	–	–	–
Gardner,	12,267	–	–	–	–	–	–	–	–
Milford,	12,256	–	–	–	–	–	–	–	–
Weymouth,	11,638	–	–	–	–	–	–	–	–
Framingham,	11,598	–	–	–	–	–	–	–	–
Watertown,	11,597	3	1	–	–	–	–	–	–
Plymouth,	11,452	–	–	–	–	–	–	–	–
Southbridge,	11,206	3	1	1	2	–	–	–	–
Wakefield,	10,476	8	–	–	1	–	–	–	–
Webster,	10,280	–	–	–	–	–	–	–	–

Recapitulation.

Total of reporting towns,	2,179,586	751	220	120	156	74	11	3	4

WEEK ENDING MARCH 10, 1906.

CITIES AND TOWNS.	Population. Estimated for 1906.	Reported Deaths in Each.	Deaths under Five Years.	DEATHS FROM— Principal Infectious Diseases.	Acute Lung Diseases.	Phthisis.	Diphtheria.	Typhoid Fever.	Measles.
Boston,	602,528	250	74	50	51	31	6	4	3
Worcester,	130,171	48	19	5	14	–	–	–	–
Fall River,	105,943	45	18	8	8	3	1	–	–
Cambridge,	98,583	20	8	5	1	2	1	–	–
Lowell,	94,889	40	16	4	14	1	1	–	–
Lynn,	78,871	37	11	2	9	2	–	–	–
New Bedford,	77,006	30	13	3	7	2	1	–	–
Springfield,	76,255	18	6	1	–	–	1	–	–
Lawrence,	71,653	31	14	7	7	2	–	–	1
Somerville,	70,908	12	1	2	2	2	–	–	–
Holyoke,	50,824	23	10	5	3	2	–	–	–
Brockton,	49,511	11	3	1	3	1	–	–	–
Malden,	38,978	10	3	1	4	1	–	–	–
Salem,	37,970	16	4	3	1	1	–	1	–
Chelsea,	37,968	12	4	2	1	1	–	–	–

WEEK ENDING MARCH 10, 1906 — *Concluded.*

CITIES AND TOWNS.	Population. Estimated for 1906.	Reported Deaths in Each.	Deaths under Five Years.	DEATHS FROM — Principal Infectious Diseases.	Acute Lung Diseases.	Phthisis.	Diphtheria.	Typhoid Fever.	Measles.
Haverhill,	37,962	13	1	1	3	–	–	–	–
Newton,	37,512	9	1	–	1	–	–	–	–
Fitchburg,	33,327	5	3	–	1	–	–	–	–
Taunton,	30,967	7	2	1	2	1	–	–	–
Everett,	30,173	3	1	1	–	1	–	–	–
Quincy,	28,995	3	1	–	1	–	–	–	–
Waltham,	26,881	3	1	–	1	–	–	–	–
Gloucester,	26,011	6	1	4	–	4	–	–	–
Pittsfield,	25,704	10	3	3	–	1	2	–	–
Brookline,	24,207	6	–	–	2	–	–	–	–
North Adams,	22,150	8	2	–	2	–	–	–	–
Chicopee,	20,402	4	1	–	–	–	–	–	–
Northampton,	20,175	6	2	1	1	1	–	–	–
Medford,	19,988	7	–	2	1	–	–	2	–
Beverly,	15,506	5	1	–	1	–	–	–	–
Hyde Park,	14,784	7	3	–	–	–	–	–	–
Newburyport,	14,715	4	–	1	1	–	–	–	–
Leominster,	14,712	–	–	–	–	–	–	–	–
Melrose,	14,578	3	1	–	–	–	–	–	–
Woburn,	14,432	1	–	1	–	1	–	–	–
Marlborough,	14,168	4	–	–	–	–	–	–	–
Westfield,	13,887	2	–	–	–	–	–	–	–
Peabody,	13,438	–	–	–	–	–	–	–	–
Revere,	13,168	8	1	–	–	–	–	–	–
Clinton,	13,105	5	2	1	–	–	1	–	–
Attleborough,	12,995	–	–	–	–	–	–	–	–
Adams,	12,775	–	–	–	–	–	–	–	–
Gardner,	12,267	2	–	1	–	–	–	–	–
Milford,	12,256	–	–	–	–	–	–	–	–
Weymouth,	11,638	–	–	–	–	–	–	–	–
Framingham,	11,598	–	–	–	–	–	–	–	–
Watertown,	11,597	–	–	–	–	–	–	–	–
Plymouth,	11,452	–	–	–	–	–	–	–	–
Southbridge,	11,206	3	1	1	–	–	–	–	–
Wakefield,	10,476	2	–	–	–	–	–	–	–
Webster,	10,280	–	–	–	–	–	–	–	–
Recapitulation.									
Total of reporting towns,	2,180,401	739	232	117	142	60	14	7	4

WEEK ENDING MARCH 17, 1906.

CITIES AND TOWNS.	Population. Estimated for 1906.	Reported Deaths in Each.	Deaths under Five Years.	DEATHS FROM— Principal Infectious Diseases.	Acute Lung Diseases.	Phthisis.	Diphtheria.	Typhoid Fever.	Measles.
Boston,	602,528	224	59	38	35	26	2	–	4
Worcester,	130,171	50	20	4	11	–	–	–	–
Fall River,	105,943	37	21	1	10	–	–	–	–
Cambridge,	98,583	28	7	2	2	1	1	–	–
Lowell,	94,889	32	10	5	8	1	1	–	1
Lynn,	78,871	14	3	1	2	–	1	–	–
New Bedford,	77,006	34	16	3	4	1	1	1	–
Springfield,	76,255	29	4	4	5	3	–	–	–
Lawrence,	71,653	26	15	5	6	–	–	1	1
Somerville,	70,908	21	6	4	4	3	1	–	–
Holyoke,	50,824	15	7	1	4	–	–	–	–
Brockton,	49,511	16	6	3	–	3	–	–	–
Malden,	38,978	12	3	3	2	2	–	1	–
Salem,	37,970	14	4	3	–	3	–	–	–
Chelsea,	37,968	13	3	–	3	–	–	–	–
Haverhill,	37,962	10	2	3	1	2	–	–	–
Newton,	37,512	7	2	1	3	1	–	–	–
Fitchburg,	33,327	–	–	–	–	–	–	–	–
Taunton,	30,967	11	1	4	–	4	–	–	–
Everett,	30,173	8	5	1	–	–	1	–	–
Quincy,	28,995	8	2	1	2	1	–	–	–
Waltham,	26,881	3	2	–	–	–	–	–	–
Gloucester,	26,011	10	3	1	2	–	–	1	–
Pittsfield,	25,704	10	2	1	1	–	–	–	–
Brookline,	24,207	4	–	–	1	–	–	–	–
North Adams,	22,150	3	2	–	–	–	–	–	–
Chicopee,	20,402	4	4	–	2	–	–	–	–
Northampton,	20,175	5	–	1	1	1	–	–	–
Medford,	19,988	5	2	1	2	1	–	–	–
Beverly,	15,506	5	2	1	1	–	–	–	–
Hyde Park,	14,784	5	1	1	1	1	–	–	–
Newburyport,	14,715	5	–	1	–	1	–	–	–
Leominster,	14,712	–	–	–	–	–	–	–	–
Melrose,	14,578	4	–	1	1	–	–	–	–
Woburn,	14,432	4	1	–	3	–	–	–	–
Marlborough,	14,168	2	1	–	–	–	–	–	–
Westfield,	13,887	–	–	–	–	–	–	–	–
Peabody,	13,438	–	–	–	–	–	–	–	–
Revere,	13,168	3	2	–	–	–	–	–	–
Clinton,	13,105	2	–	–	1	–	–	–	–
Attleborough,	12,995	–	–	–	–	–	–	–	–
Adams,	12,775	–	–	–	–	–	–	–	–
Gardner,	12,267	4	4	–	3	–	–	–	–
Milford,	12,256	–	–	–	–	–	–	–	–
Weymouth,	11,638	3	–	–	–	–	–	–	–
Framingham,	11,598	–	–	–	–	–	–	–	–
Watertown,	11,597	6	3	–	–	–	–	–	–
Plymouth,	11,452	–	–	–	–	–	–	–	–
Southbridge,	11,206	4	2	–	–	–	–	–	–
Wakefield,	10,476	3	–	–	1	–	–	–	–
Webster,	10,280	–	–	–	–	–	–	–	–
Recapitulation.									
Total of reporting towns,	2,144,825	703	227	95	122	55	8	4	6

WEEK ENDING MARCH 24, 1906.

CITIES AND TOWNS.	Population. Estimated for 1906.	Reported Deaths in Each.	Deaths under Five Years.	DEATHS FROM—					
				Principal Infectious Diseases.	Acute Lung Diseases.	Phthisis.	Diphtheria.	Typhoid Fever.	Measles.
Boston,	602,528	268	77	45	57	30	3	–	5
Worcester,	130,171	30	15	1	8	–	–	–	–
Fall River,	105,943	39	18	10	10	2	1	1	–
Cambridge,	98,583	23	6	5	4	4	1	–	–
Lowell,	94,889	47	18	7	11	3	1	–	–
Lynn,	78,871	23	4	–	3	–	–	–	–
New Bedford,	77,006	22	12	1	8	–	1	–	–
Springfield,	76,255	18	1	2	6	2	–	–	–
Lawrence,	71,653	31	11	12	6	1	–	1	–
Somerville,	70,908	16	2	3	1	2	–	1	–
Holyoke,	50,824	15	7	4	5	2	–	–	–
Brockton,	49,511	13	2	2	2	2	–	–	–
Malden,	38,978	16	4	1	1	1	–	–	–
Salem,	37,970	14	4	2	–	2	–	–	–
Chelsea,	37,968	14	–	2	2	2	–	–	–
Haverhill,	37,962	11	1	4	2	4	–	–	–
Newton,	37,512	12	4	–	4	–	–	–	–
Fitchburg,	33,327	12	5	–	3	–	–	–	–
Taunton,	30,967	13	3	–	2	–	–	–	–
Everett,	30,173	5	1	1	–	1	–	–	–
Quincy,	28,995	5	1	1	1	1	–	–	–
Waltham,	26,881	3	–	–	–	–	–	–	–
Gloucester,	26,011	4	1	–	–	–	–	–	–
Pittsfield,	25,704	3	1	3	–	–	1	1	–
Brookline,	24,207	7	–	–	1	–	–	–	–
North Adams,	22,150	5	2	1	1	1	–	–	–
Chicopee,	20,402	5	3	–	4	–	–	–	–
Northampton,	20,175	12	1	–	3	–	–	–	–
Medford,	19,988	8	1	1	2	1	–	–	–
Beverly,	15,506	6	1	–	–	–	–	–	–
Hyde Park,	14,784	2	–	–	–	–	–	–	–
Newburyport,	14,715	4	–	–	–	–	–	–	–
Leominster,	14,712	8	–	3	5	–	–	–	2
Melrose,	14,578	5	1	1	–	1	–	–	–
Woburn,	14,432	8	2	5	1	2	–	–	–
Marlborough,	14,168	4	1	–	1	–	–	–	–
Westfield,	13,887	4	1	1	1	–	1	–	–
Peabody,	13,438	–	–	–	–	–	–	–	–
Revere,	13,168	1	–	–	–	–	–	–	–
Clinton,	13,105	5	1	1	1	1	–	–	–
Attleborough,	12,995	2	–	–	1	–	–	–	–
Adams,	12,775	5	3	2	1	1	1	–	–
Gardner,	12,267	3	3	1	–	–	1	–	–
Milford,	12,256	–	–	–	–	–	–	–	–
Weymouth,	11,638	4	1	1	–	–	–	–	–
Framingham,	11,598	–	–	–	–	–	–	–	–
Watertown,	11,597	2	1	–	1	–	–	–	–
Plymouth,	11,452	–	–	–	–	–	–	–	–
Southbridge,	11,206	2	–	1	1	1	–	–	–
Wakefield,	10,476	1	–	–	1	–	–	–	–
Webster,	10,280	–	–	–	–	–	–	–	–

Recapitulation.

Total of reporting towns,	2,232,521	760	220	124	161	67	11	4	7

WEEK ENDING MARCH 31, 1906.

CITIES AND TOWNS.	Population. Estimated for 1906.	Reported Deaths in Each.	Deaths under Five Years.	DEATHS FROM— Principal Infectious Diseases.	Acute Lung Diseases.	Phthisis.	Diphtheria.	Typhoid Fever.	Measles.
Boston,	602,528	222	65	45	49	26	4	1	3
Worcester,	130,171	39	12	2	6	1	–	–	–
Fall River,	105,943	45	28	8	14	3	1	–	1
Cambridge,	98,583	22	11	6	4	4	–	–	–
Lowell,	94,889	46	18	5	12	1	1	–	–
Lynn,	78,871	29	3	2	5	1	–	–	–
New Bedford,	77,006	26	10	4	4	2	2	–	–
Springfield,	76,255	23	8	1	3	1	–	–	–
Lawrence,	71,653	30	8	8	3	4	–	3	–
Somerville,	70,908	29	10	1	5	–	–	–	–
Holyoke,	50,824	14	4	1	2	1	–	–	–
Brockton,	49,511	10	3	5	2	2	–	–	–
Malden,	38,978	16	6	2	3	1	1	–	–
Salem,	37,970	18	3	4	2	3	1	–	–
Chelsea,	37,968	17	6	1	–	1	–	–	–
Haverhill,	37,962	19	9	3	5	–	1	–	–
Newton,	37,512	9	2	–	–	–	–	–	–
Fitchburg,	33,327	13	7	1	4	1	–	–	–
Taunton,	30,967	8	1	3	2	3	–	–	–
Everett,	30,173	6	1	1	–	–	–	–	–
Quincy,	28,995	8	4	1	3	1	–	–	–
Waltham,	26,881	5	1	–	1	–	–	–	–
Gloucester,	26,011	9	1	1	–	1	–	–	–
Pittsfield,	25,704	6	1	1	1	1	–	–	–
Brookline,	24,207	9	–	1	1	1	–	–	–
North Adams,	22,150	8	5	2	2	1	–	–	–
Chicopee,	20,402	9	4	2	2	2	–	–	–
Northampton,	20,175	4	–	–	1	–	–	–	–
Medford,	19,988	4	–	–	–	–	–	–	–
Beverly,	15,506	10	3	–	2	–	–	–	–
Hyde Park,	14,784	8	–	1	–	1	–	–	–
Newburyport,	14,715	7	3	2	–	1	–	–	–
Leominster,	14,712	3	–	–	2	–	–	–	–
Melrose,	14,578	5	2	1	1	1	–	–	–
Woburn,	14,432	6	3	1	–	–	–	–	–
Marlborough,	14,168	7	1	3	–	2	–	–	1
Westfield,	13,887	4	1	–	–	–	–	–	–
Peabody,	13,438	–	–	–	–	–	–	–	–
Revere,	13,168	2	–	1	1	1	–	–	–
Clinton,	13,105	6	1	2	2	1	–	–	–
Attleborough,	12,995	8	2	1	–	1	–	–	–
Adams,	12,775	3	–	2	–	1	–	–	–
Gardner,	12,267	–	–	–	–	–	–	–	–
Milford,	12,256	7	3	1	2	–	–	1	–
Weymouth,	11,638	3	1	–	–	–	–	–	–
Framingham,	11,598	4	–	2	2	–	–	–	–
Watertown,	11,597	1	1	–	1	–	–	–	–
Plymouth,	11,452	–	–	–	–	–	–	–	–
Southbridge,	11,206	2	–	–	–	–	–	–	–
Wakefield,	10,476	2	–	–	1	–	–	–	–
Webster,	10,280	–	–	–	–	–	–	–	–

Recapitulation.

Total of reporting towns,	2,244,108	788	251	128	150	71	11	5	5

WEEKLY RETURNS OF DEATHS FROM INFECTIOUS DISEASES.

DEATHS FROM INFECTIOUS DISEASES NOT SPECIFICALLY MENTIONED IN ABOVE TABLES DURING THE WEEKS OF MARCH 3, 10, 17, 24 AND 31, 1906.

DISEASE.	Place.	WEEK ENDING—				
		Mar. 3.	Mar. 10.	Mar. 17.	Mar. 24.	Mar. 31.
Cerebro-spinal meningitis,	Boston,	3	–	2	3	2
	Worcester,	–	2	4	–	–
	Lowell,	2	2	2	2	2
	Cambridge,	1	1	–	–	1
	Lawrence,	1	–	3	7	–
	Brockton,	–	–	–	–	2
	Everett,	–	–	–	–	1
	Haverhill,	–	1	1	–	–
	Pittsfield,	–	–	–	1	–
	Woburn,	–	–	–	3	1
	Chelsea,	–	1	–	–	–
	Weymouth,	–	–	–	1	–
	Melrose,	–	–	1	–	–
	Revere,	1	–	–	–	–
Scarlet fever,	Boston,	–	2	–	–	4
	Worcester,	–	1	–	–	–
	New Bedford,	1	–	–	–	–
	Haverhill,	–	–	–	–	2
	North Adams,	–	–	–	–	1
	Adams,	–	–	–	–	1
	Lynn,	–	–	–	–	1
Erysipelas,	Boston,	2	–	2	1	2
	Lawrence,	–	–	–	1	–
	Salem,	–	1	–	–	–
	Somerville,	1	–	–	–	–
	Springfield,	–	–	1	–	–
Whooping-cough,	Boston,	1	1	–	3	1
	Fall River,	1	1	–	–	1
	Lowell,	–	–	–	1	–
	Cambridge,	–	1	–	–	1
	Newburyport,	–	–	–	–	1
	Clinton,	–	–	–	–	1
	Lawrence,	1	1	–	1	1
	Holyoke,	1	3	–	2	–
	Pittsfield,	–	–	1	–	–
	Beverly,	–	–	1	–	–
	Springfield,	1	–	–	–	–
Influenza,	Gardner,	–	1	–	–	–
	Leominster,	–	–	–	1	–
	Framingham,	–	–	–	–	2

WEEKLY RETURNS OF CASES OF INFECTIOUS DISEASES.

CASES OF INFECTIOUS DISEASES REPORTED DURING THE WEEKS OF MARCH 3, 10, 17, 24 AND 31, 1906.

[Under the provisions of section 52 of chapter 75 of the Revised Laws.]

	WEEK ENDING —				
	Mar. 3.	Mar. 10.	Mar. 17.	Mar. 24.	Mar. 31.
Leprosy,	1	–	–	–	–
Small-pox,		1	–	–	3
Scarlet fever,	88	102	121	106	120
Diphtheria,	129	125	130	127	115
Measles,	868	852	839	850	744
Typhoid fever,	19	25	26	19	30
Cerebro-spinal meningitis,	7	7	5	28	6

MONTHLY REPORT ON INSPECTION OF FOOD AND DRUGS.

The following summary presents the results of the examinations of food and drugs made by the State Board of Health during the months of February and March, 1906: —

FEBRUARY.

ARTICLES EXAMINED.	Number found to be of Good Quality.	Number adulterated or varying from the Legal Standard.	Total.	ARTICLES EXAMINED.	Number found to be of Good Quality.	Number adulterated or varying from the Legal Standard.	Total.
Milk,	77	173[1]	250	Hamburg steak,	10	4	14
Butter,	10	–	10	Lambs' tongues,	1	1	2
Cheese,	1	–	1	Mince meat,	3	–	3
Condensed milk,	3	1	4	Sausages,	36	12	48
Cream,	4	–	4	Tripe,	2	–	2
Lard,	19	–	19	Molasses,	15	–	15
Spices,	9	1	10	Table sauce,	1	–	1
Cream of tartar,	3	–	3	Vinegar,	4	–	4
Maple syrup,	5	4	9	Lemon extract,	–	1	1
Maple cream,	–	2	2	Vanilla extract,	2	1	3
Maple sugar,	–	2	2	Grape juice,	2	–	2
Honey,	1	–	1	Beer and ale,	8	6	14
Cider,	3	–	3	Jams, jellies and preserves,	10	2	12
Clams and oysters,	3	–	3	"Coffee finish,"	–	–	1
Canned string beans,	1	–	1	Diabetic biscuit,	1	–	1
Cocoa,	1	1	2	Drugs,	25	12	37
Coffee,	3	–	3				
Confectionery,	10[2]	–	10	Total,	273	233	507
"Evaporated cream,"	–	10[3]	10				

[1] The great majority of the samples of milk which failed to conform to the statute requirement of 13 per cent. of total solids contained between 12 and 13 per cent., and only 19 showed probable addition of water.

[2] Examined with special reference to the presence of paraffine.

[3] Of good quality, but adulterated in the sense that they are misnamed, being condensed milk and not cream.

The samples of drugs found to be adulterated were: extractum glycyrrhizæ, extractum zingiberis fluidum, oleum olivæ, spiritus camphoræ, spiritus frumenti, spiritus vini gallici and tinctura rhei dulcis.

The cities and towns in which samples were collected were: Boston, Cambridge, Somerville, Chelsea, New Bedford, Haverhill, Malden, Taunton, Fairhaven, Watertown, Newton, Milton, Springfield, Everett, Holliston, Millis, Salem, Lawrence, Brockton, Whitman, Hingham, Quincy, Abington, Hyde Park, Waltham, Woburn, Blackstone, Franklin and South Framingham.

MARCH.

ARTICLES EXAMINED.	Number found to be of Good Quality.	Number adulterated or varying from the Legal Standard.	Total.	ARTICLES EXAMINED.	Number found to be of Good Quality.	Number adulterated or varying from the Legal Standard.	Total.
Milk,	117	164	281	Vanilla extract,	6	1	7
Butter,	9	1	10	Almond extract,	1	–	1
Cheese,	1	–	1	Strawberry extract,	–	1	1
Cream,	8	6	14	Cereal flour,	3	1	4
Lard,	21	1	22	Grape juice,	2	2	4
Spices,	23	3	26	Lime juice,	–	2	2
Cream of tartar,	7	–	7	Beer,	1	–	1
Maple sugar,	4	2	6	Ale,	9	6	15
Maple syrup,	4	3	7	Porter,	1	–	1
Catsup and table sauces,	1	7	8	Cocoanut,	13	–	13
Cider,	2	–	2	Confectionery,	45	–	45
Canned goods,	10	–	10	Molasses,	10	–	10
Cocoa,	1	1	2	Salad dressing,	5	–	5
Coffee,	3	–	3	Pickles,	6	2	8
Coffee substitutes,	2	–	2	Vinegar,	5	–	5
Hamburg steak,	5	4	9	Wine,	2	–	2
Lambs' tongues,	3	–	3	Jellies and jams,	16	3	19
Sausages,	44	14	58	Dessert preparations,	4	–	4
Mince meat,	1	1	2	Drugs,	65	15	80
Pressed ham,	2	–	2				
Hog's head cheese,	4	–	4	Total,	470	245	715
Meat jellies,	2	1	3				
Lemon extract,	2	4	6				

The samples of drugs found to be adulterated were: cera alba, liquor formaldehydi, oleum olivæ, spiritus camphoræ, spiritus frumenti, spiritus menthæ piperitæ, spiritus vini gallici and tinctura iodi.

The cities and towns in which samples were collected were: Webster, Worcester, Salem, Boston, Cambridge, Beverly, Franklin, New Bedford, Taunton, Wenham, Brockton, Lowell, Chelsea, Malden, Somerville, Dedham, Gloucester, Lynn, Weymouth, Quincy, Lawrence, Concord, Attleborough, Clinton, Andover, Natick, Marblehead, South Framingham, Holyoke, Springfield, Revere, Ipswich, Middleborough, Everett, Wayland, Kingston and Grafton.

Correct conclusions as to the condition of the food supply cannot be drawn from the monthly reports, for it is the aim of the inspectors to

collect samples which are most likely to show some form of adulteration. Articles which experience has shown to be rarely adulterated and brands known to yield uniformly good results are collected in but small numbers.

PROSECUTIONS FOR VIOLATIONS OF THE LAW RELATING TO FOOD AND DRUGS.

Thirty-one convictions were secured during the month of February, 1906, for selling adulterated food and drugs, as follows: —

No.	Name of Defendant.	Place.	Character of Article sold.
1	John A. Seaman,	New Bedford,	Maple syrup.
2	William A. Perry,	New Bedford,	Frankfort sausage.
3	Wallace F. Staples,	Chelsea,	Maple syrup.
4	Albert F. Hayward,	Quincy,	Lambs' tongues.
5	Lee H. Porter,	Randolph,	Brandy.
6	Lee H. Porter,	Randolph,	Whiskey.
7	Archibald Dakin,	Randolph,	Brandy.
8	Archibald Dakin,	Randolph,	Whiskey.
9	George M. Wason,	Haverhill,	Milk.
10	E. C. Eldridge,	Haverhill,	Milk.
11	Joseph Robidaux,	Brockton,	Damson preserves.
12	Joseph Robidaux,	Brockton,	Currant jelly.
13	Andrew F. Fearns,	Taunton,	Olive oil.
14	Frank N. McClure,	Taunton,	Lard.
15	Theodore Metcalf Company,	Boston,	Olive oil.
16	Theodore Metcalf Company,	Boston,	Extract of vanilla.
17	Theodore Metcalf Company,	Boston,	Brandy.
18	Henry F. Gregore,	Chelsea,	Hamburg steak.
19	Kayajau A. Simon,	Chelsea,	Lard.
20	Walter T. Marris,	Chelsea,	Frankfort sausage.
21	Charles D. Johnson,	Chelsea,	Hamburg steak.
22	Elnathan C. Brownell,	New Bedford,	Frankfort sausage.
23	Robert C. Laberge,	Lawrence,	Lard.
24	Mary C. Oxnard,	Haverhill,	Milk.
25	William L. Chase,	Quincy,	Milk.
26	John A. D. Schafer,	Chelsea,	Milk.
27	Benjamin Dine,	Chelsea,	Milk.
28	Benjamin E. Strout,	Chelsea,	Sausage.
29	John C. Finnegan,	Woburn,	Milk.
30	William F. Estabrook,	Woburn,	Milk.
31	Thomas S. Litchfield,	Woburn,	Butter.

Amount paid in fines, $429.

The number of convictions secured during March, 1906, was 42, as follows: —

No.	Name of Defendant.	Place.	Character of Article sold.
1	Philip Friedman,	Millis,	Milk.
2	Philip Friedman,	Millis,	Milk.
3	Lewis W. Chamberlain,	Millis,	Milk.
4	Arthur P. Bodge,	Peabody,	Milk.
5	Frank S. Brennan,	Salem,	Milk.
6	Winslow P. Goldsmith,	Beverly,	Milk.
7	Wayland H. Sheafe,	Charlton,	Milk.
8	Wayland H. Sheafe,	Charlton,	Milk.
9	Anelious O. Chickering,	Spencer,	Milk.
10	Joseph Lamontage,	Lawrence,	Milk.
11	Richard Bourgeois,	Lawrence,	Milk.
12	James L. McAvoy,	Lawrence,	Milk.
13	Jacob H. Schmidt,	New Bedford,	Frankfort sausage.
14	Jacob H. Schmidt,	New Bedford,	Frankfort sausage.
15	Aleck Muchlbutt,	Holyoke,	Frankfort sausage.
16	Chas. A Howard,	Holliston,	Milk.
17	Gaetano Orsi,	Taunton,	Maple sugar.
18	Clifford J. Gray,	Holyoke,	Frankfort sausage.
19	John J. Boudreau,	Holyoke,	Frankfort sausage.
20	Zoeth R. Higgins,	Franklin,	Milk.
21	Henry F. Woodbury,	Beverly,	Milk.
22	Henry F. Woodbury,	Beverly,	Milk.
23	Mossimino Cattado,	Boston;	Hamburg steak.
24	James J. Egan,	Boston,	Catsup.
25	Geo. T. Kelly,	Boston,	Hamburg steak.
26	Arthur L. Green,	Boston,	Olive oil.
27	Chas. L. Parker,	Quincy,	Milk.
28	Redmond Welsh,	Sherborn,	Milk.
29	Lewis L. Patridge,	Malden,	Catsup.
30	Joseph Murray,	Taunton,	Ale.
31	John G. Fuller,	Rockland,	Lambs' tongues.
32	Chas. R. Cox,	Whitman,	Lambs' tongues.
33	Christian Wolfrum,	Boston,	Frankfort sausage.
34	Arthur R. Pitts,	Hyde Park,	Maple syrup.
35	Daniel F. Lyons,	Somerville,	Mince meat.
36	Michael K. Murphy,	Boston,	Hamburg steak.
37	Lawrence Loiwa,	Holyoke,	Lard.
38	Arthur F. Pease,	Holyoke,	Hamburg steak.
39	Jesse H. Whipple,	Ipswich,	Milk.
40	Dana H. Elkins,	Wayland,	Cream.
41	Dana H. Elkins,	Wayland,	Cream.
42	Dana H. Elkins,	Wayland,	Cream.

Fines imposed, $843.

LIST OF ADULTERATED FOOD, ETC., FOR FEBRUARY AND MARCH, 1906.

February.

Number of Sample.	Character of Sample.	Brand, or Name of Manufacturer, Wholesaler or Producer.	Results of Analyses.
9316 L,	"Gilt Edge Brand" evaporated cream.	Scranton Condensed Milk Company, New York,	Ordinary milk, evaporated to about one-half its volume; in no sense are they cream.
215	"St. Charles Brand" evaporated cream.	St. Charles Condensing Company, St. Charles, Ill.,	
9266 L,	Borden's Peerless evaporated cream.	Borden's Condensed Milk Company, New York,	
9270 L,	Silver Cow evaporated cream.	St. Charles Condensing Company, St. Charles, Ill.,	
2859 N,	Jackson's standard extract of lemon.	A. B. Jackson & Co., New York,	.05 per cent. lemon oil.
220	"Colonial Brand" compound vanilla flavoring.	Pitts-Kimball Company, Boston,	Contains coumarin.
2991 N,	"Yankee Brand" damson preserves.	Althaus & Co., Providence, R. I.,	Large admixture of apple stock, colored with a coal tar dye and preserved with benzoic acid.
2993 N,	"Yankee Brand" currant jelly.	Althaus & Co., Providence, R. I.,	Largely apple stock, colored with a coal tar dye.
148	Ale,	W. H. Hennessey, Lynn, Mass.,	Preserved with salicylic acid.
149	Ale,	Miles & Johnson, Lynn, Mass.,	Preserved with salicylic acid.
2939 N,	India pale ale,	C. H. Evans & Sons, Hudson, N. Y.,	Preserved with salicylic acid and sulphurous acid, in excess of amount stated on the label.
143	"Victor Brand" maple syrup.	Saville, Somes & Co., Boston, Mass.,	90 per cent. refined cane sugar syrup; no formula.
3035 N,	"Victor Brand" maple sap syrup.	Simpson Spring Company, South Easton, Mass.,	85 per cent. refined cane sugar syrup; no formula.

3061 N,	"Pentucket Brand" Vermont maple syrup.	Simpson Spring Company, South Easton, Mass.,	80 per cent. refined cane sugar syrup; formula erroneous.
9414 L,	"Adirondack Sugar," guaranteed absolutely pure.	Adirondack Sugar Company, Utica, N. Y.,	50 per cent. refined cane sugar; no formula.
9326 L,	Pure maple cream,	Adirondack Sugar Company, Utica, N. Y.,	50 per cent. refined cane sugar; no formula.
9504 L,	Pure maple cream,	Haskell, Adams & Co., Boston, Mass.,	50 per cent. refined cane sugar; no formula.
9334 L,	Olive oil,	Albert W. Kidder, Cambridge, Mass.,	Admixture of cotton-seed oil.
270	Olive oil,	Arthur L. Green, Boston, Mass.,	Largely cotton-seed oil.
9342 L,	Milk,	Minnie Chickering, Spencer, Mass.,	9.73 per cent. total solids; contains added water.
9344 L,	Milk,	Philip Friedman, Millis, Mass.,	10.32 per cent. total solids; contains added water.

March.

650	"Hazel Brand" buckwheat flour.	Henry Siegel Company, Boston,	Admixture of corn and wheat flour.
570 638	"Hazel Brand" apple butter.	Henry Siegel Company, Boston,	Preserved with benzoic acid.
600 643	"Hazel Brand" chili sauce.	Henry Siegel Company, Boston,	Preserved with benzoic acid.
569 644	"Hazel Brand" tomato catsup.	Henry Siegel Company, Boston,	Preserved with benzoic acid.
9872 L,	Jellied pigs' feet,	Henry Siegel Company, Boston,	Preserved with boric acid.
9868 L,	Sweet piccalilli,	Henry Siegel Company, Boston,	Preserved with benzoic acid.
9880 L,	Sweet pickles,	Henry Siegel Company, Boston,	Preserved with benzoic acid.
333	Middlesex tomato catsup.	F. M. Bill & Co., Lowell,	Preserved with benzoic acid.
3615 N,	Maple syrup,	Ayer Preserving Company, Ayer,	90 per cent. cane syrup; incorrect formula.
9912 L,	Challenge lunch cocoa,	Importers Tea and Coffee Company, Boston,	Admixture of sugar; obscurely marked.
9908 L,	Challenge strawberry extract.	Importers Tea and Coffee Company, Boston,	Artificial.
9926 L,	Challenge cloves,	Importers Tea and Coffee Company, Boston,	Chiefly stems.
9940 L,	Eagle lemon extract,	Eagle Extract Company, Boston,	Trace only of lemon oil.
9896 L,	Continental lemon extract.	Continental Tea Company, Chelsea,	Trace only of lemon oil.
9942 L,	Parker's ten cent vanilla extract.	Parker Specialty Company, Melrose,	Contains coumarin; erroneous formula.
596	Raspberry jam,	Webster Preserving Company, Webster, N. Y.,	Preserved with benzoic acid.

LIST OF ADULTERATED FOOD, ETC. — *Concluded.*

MARCH — *Concluded.*

Number of Sample.	Character of Sample.	Brand, or Name of Manufacturer, Wholesaler or Producer.	Results of Analyses.
3629 N, 3633 3639 3645 3675 3677	Cream,	D. H. Elkins, Cochituate,	Preserved with formaldehyde.
9628 L, 9630 9632	Milk,	Henry F. Woodbury, Beverly,	Contained added water.
9774 L,	Milk,	Everett R. Reid, Chelmsford,	Contained added water.
3709 N,	Milk,	Harry P. Young, North Grafton,	Contained added water.
640	Olive oil,	Davis & Young, Lynn,	Consisted entirely of cotton-seed oil.

INSPECTION OF DAIRIES.

During the month of February, 1906, 231 dairies were examined by the Board's inspector, in the following cities and towns: —

Place.	Number examined.	Number found to present no Objectionable Features.	Place.	Number examined.	Number found to present no Objectionable Features.
Charlton, . .	2	1	Scituate, . .	1	1
Grafton, . . .	39	11	Sutton, . .	47	8
Leicester, . .	21	6	Worcester, . .	59	11
Millbury, . .	51	22			
Paxton, . . .	1	–	Total, . .	231	64
Salem, . . .	10	4			

The percentage of dairies which passed inspection was 27.7. The names of the owners follow.

Charlton.

Bond, Carlis.

Grafton.

Beatty, J. L.
Brigham, Edward.
Cross, W. H.
Grafton Town Farm.
Huntley, D. R.
Johnson, J. Frank.
Leavens, G. D.
Nelson, A. B.
Peters, C. C.
Robbins, G. W.
Taylor, J. L.

Leicester.

Bacon, A. E.
Dahlquist, A.
Gagen Bros.
Highland, Jas.
Warren, Edward.
Watts, Edw.

Millbury.

Bartlett, F. R.
Blanchard, Joseph.
Brooks, Geo. M.
Buckley, Mrs. R. A.
Carlstrom, Carl.
Carter, Henry W.
Dolan, J.
Doyle, John.
Gilson, J.
Goddard, H. M.
Halberg, Carl.
Hopkins, Frank.
Howe, E. S.
Marble, Charles.
McGrath, P.
Millbury Town Farm.
Pope, John W.
Pray, Wm. H.
Rice, F. H.
Stockwell, S. Frank.
Stowe, G. I.
Tranter, Wm.

Salem.

Barrett, D. F.
Crodis, E. E.
Jones, George H.
Williams, T. R.

Scituate.

Lawson, Thomas W.

Sutton.

Ballard, Jos.
Brigham, Dexter.
Brigham, H. M.
Cullinane, Ellen.
Erickson, Jeri.
Hartnett, John.
Welch, David.
Wells, David.

Worcester.

(See page 61.)

During the month of March 316 dairies were examined, as follows: —

Place.	Number examined.	Number found to present no Objectionable Features.	Place.	Number examined.	Number found to present no Objectionable Features.
Beverly, . .	36	16	Rowley, . .	32	7
Boxford, . .	14	2	South Byfield, .	1	–
Danvers, . .	55	22	Topsfield, . .	40	12
Hamilton, . .	15	5	Wenham, . .	29	11
Ipswich, . .	35	9			
Middleton, . .	17	9	Total, . .	316	115
Peabody, . .	42	22			

The percentage of dairies which passed inspection was 36.4. The names of the owners follow.

Beverly.

Caldwell, Charles E.
Cartin, John W.
Chamberlain, Dr. M. L.
Dodge, Joshua W.
Edwards, Frank.
Forster Brothers.
Foster, Arthur.
Grady, Thomas.
Hanson, H. O.
Haskell, Miss A. M.
Marshall, E. L.
Mason, Charles A.
Riva, Charles E.
Wales, George R.
Woodbury, Frank A.
Woodbury, John.

Boxford.

Dorman, John.
Killham, Edward.

Danvers.

Allen, Elmer.
Bradstreet, A.
Clark, George.
Currier, W. J.
Endicott, W. C.
Gates, Amos.
Gates, John.
Hussey, E. C.
Jacobs, W. A.
Kimball, F. O.
Kimball, Joel.
Learoyd, B.
McDonald, T.
Mudge, A. H.
O'Neil, T. H.
Pope, Daniel.
Putnam, John M.
Rathburn, F. I.
St. John's College.
Swinerton, John.
Webb, F. W.
Wentworth, James L.

Hamilton.

Berry, Fred.
Cilley, Dr. O. G.
Cook, L.
Norman, Maxwell.
Whipple, C. E.

Ipswich.

Appleton, D. H.	House of Correction.	Perley, D. S.
Brown, Albert.	Kimball, Daniel.	Town Farm.
Gould, Walter.	Kinsman, Gustave.	Wallace, A. D.

(Other dairies in Ipswich were examined in December. See January issue of the "Bulletin.")

Middleton.

Berry, William.	Hutchinson, E. S.	Phillips, B. F.
Currier, Geo. E.	Merrill, S. S.	Sanford, J. B.
Higgins, John F.	Peabody, J. W.	Wilkins, L.

Peabody.

Berry, G. F.	Pitman, J. L.	Town Farm.
Gilmore, M. J.	Quint, N. M.	Trask, J. A.
Hutchinson Bros.	Rogers, Mrs. J. C.	Walsh, Daniel.
King, George H.	Sanders, Charles.	Webster, Dr. J.
LeCain, George W.	Simonds, John.	Williams, Charles G.
McGlone, Byrne.	Smith, J. N.	Wilson, Isaac.
McIntyre, Frank.	Southwick, Daniel B.	
Parker, N. M.	Stanley, Frank.	

Rowley.

Cate, George B.	Foss, B. W.	Mighill, Charles P.
Dole, C. L.	Hale, Edmund.	Todd, Frank.
Dresser, Charles.		

Topsfield.

Batchelder, Mrs. Ezra.	Jordan, C. F.	Pingree, David.
Batchelder, William.	Lamson, J. A.	Rust, F. W.
Hemingway, Mrs. T. C.	Meredith, J. Morris.	Williams, W. H.
Hutchings, A. U.	Pierce, T. W.	Young, I. B.

Wenham.

Burnham, A.	Johnson, W. H.	Pingree, David.
Cole, E. B.	Norwood, C. F.	Pingree, Mrs. Harriet E.
Dodge, William P.	Perkins, N. P.	Putnam, W. S.
Hosmer, Oscar.		

THE MILK SUPPLY OF WORCESTER.

The milk supply of Worcester is unusually large, the amount consumed daily being no less than .84 pint per capita. No less than 20,681 quarts are produced within the limits of the city. The next largest contributors are: Shrewsbury (6,103 quarts), Sutton (4,456 quarts), Auburn (3,953 quarts), Grafton (3,878 quarts), Millbury (3,198 quarts), West Boylston (3,077 quarts), Holden (2,227 quarts) and Paxton (2,067 quarts). Other contributing towns are: Boylston, Leicester, Westborough, Charlton, Oxford and Rutland.

The names of the owners of the dairies which have been examined in these places and have been found free from objectionable conditions may be found in the present and last preceding numbers of the "Bulletin."

Auburn.

(See February issue, page 28.)

Boylston.

Flagg, M. Shattuck, G. W. Stark, L. S.

Charlton.

(See page 57.)

Grafton.

(See page 57.)

Holden.

(See February issue, page 28.)

Leicester.

(See page 57.)

Millbury.

(See page 57.)

Oxford.

(See February issue, page 29.)

Paxton.

(See February issue, page 29.)

Rutland.

(See February issue, page 29.)

Shrewsbury.

Allan, Romeo O.
Farrow, Adam.
Martin, P.
Oliver, Miss Mary.
Russell, Walter.
Sawyer, W. H.
Tholstenson, John.

Sutton.

(See page 58.)

Westborough.

Bartlett, Frank.
Braley, Frank.
Braley, Waldo.
Dresser, Lucius.
Goodale, E. R.
Harrington, C.
Heywood, A. H.
Johnson, O. A.
Jourdan, Walter.
Mansfield, H. G.
Nichols, H. M.
Pike, H. W.
Poskitt, T. W.
Robinson, A. A.
Tidd, Wm. W. and Abbie A.
Tombs, A.
York, A. W.

West Boylston.

Blodgett, W. H.	Chase, Charles.	Farley, Arthur.
Castigliano, T.	Dietto, Joshua.	

Worcester.

Boucher, Joseph.	Harrington, B. F.	Prentice, Harry V.
Dutton, G. H.	Kendall, H. E.	Prentice, John H.
Fiske, E. E.	Kendall, L. J.	Richardson, W. A., estate of.
Green Hill Farm.	Norcross, Mrs. J. A.	Stevens, C. G.

(For additional names, see February issue, page 29.)

Not all of the milk produced by the above is sold in Worcester, but the names of all of those in each town whose dairies were found to be worthy of commendation must of necessity be published, since exclusion from the list might be regarded as equivalent to an unfavorable report. The examinations in Boylston, Shrewsbury, Westborough, West Boylston, and part of those of Worcester, were made prior to December, 1905.

"EVAPORATED CREAM."

Following are the percentages of fat in the various so-called evaporated creams, which are merely unsweetened condensed milks, having somewhat the consistency and appearance, but not the taste or physical characteristics, of cream. It is claimed by those interested that the presence of as much fat as is sufficient to warrant the term "cream" as distinct from milk makes the product cream, and not condensed milk; but cream does not contain abnormal amounts of caseine, lactose and mineral matter, for it is nothing more nor less than milk containing an excess of butter fat; and "evaporated creams" contain as many times the normal percentages of all of the constituents of milk as there are volumes of milk condensed.

Brand.	Fat (Per Cent.).	Probable Fat in Original Milk.	Brand.	Fat (Per Cent.).	Probable Fat in Original Milk.
Highland, . . .	7.80	4.55	Silver Cow, . .	7.05	3.65
Top Notch, . . .	8.20	4.50	St. Charles, . .	7.50	4.35
Gold, ...	8.70	4.29	Van Camp's, . .	6.75	4.00
Peerless, . . .	8.40	3.66			

It is true that in each case a statement appears on the label that the "cream" is an unsweetened condensed milk; but this information is given in very small letters, and usually in such a way as not to attract attention. The word "cream," however, is invariably the most conspicuous word on the label.

HOW ALCOHOLIC DRINKS CAN BE MANUFACTURED.

A certain corporation doing business in Chicago as manufacturing chemists and importers, and whose letterhead indicates that its specialties are "liquor flavoring, beading oils, 'cane sugar' sugar coloring, special blending preparations, flavoring extracts, bromo salts, fruit oils, vegetable colors, fruit ethers, essential oils, and chemical and synthetic preparations," advertises an "Apricot Brandy Cordial Essence" at $20 per gallon. A letter accompanying a sample which was obtained says: —

Regarding Apricot Brandy, we wish to state that it has become very popular within the last few years, and, being such a profitable article, we would recommend that you adopt same in your business. It can be compounded at a cost of less than $1 per gallon.

We are pleased to give you the following formula for compounding the apricot brandy: —

22 gallons 100 per cent. spirits.
10 gallons syrup.
½ gallon New England rum (domestic).
4 gallons treastor or Catawaba (*sic*) brandy.
8 gallons water.
1 pint apricot brandy cordial essence.
6 ounces crystal citric acid.

Cut 16 ounces apricot brandy cordial essence with 1 pint of alcohol, put this into 22 gallons spirits, add the New England rum, brandy, water and syrup, and then add the 6 ounces crystal citric acid, which first dissolve in 1 pint of hot water. Color with sugar coloring to suit, straw yellow brown being the desired shade. It is absolutely necessary that you should use this quantity of sugar syrup; under no circumstances use glucose.

Truly a delectable combination, which, costing 25 cents per quart, must yield a handsome profit when retailed by the cordial-glass.

The specimen proved on analysis to consist of dilute alcohol, amyl acetate, amyl butyrate, ethyl butyrate, and other organic esters not identified.

A corporation doing business in New York as manufacturing chemists, with specialties of "fruit oils, flavoring essences, colors, etc., for confectioners; soluble essences, sugar coloring, etc., for bottlers; essential oils, fine chemicals, ethers, synthetic and artificial perfumery products, etc.," advertises an "Essence Rye Whiskey," and offers prospective buyers a sample of whiskey made therefrom. The "essence" costs $10 a gallon in gallon lots, but "in larger quantities this price will be shaded." A specimen of the "rye whiskey" so made was accompanied by the following recipe: —

To make Rye Whiskey.

Take of: —

Essence rye whiskey,	4 ounces.
Rye whiskey, 113°,	2 gallons.
Dry sherry wine,	2 pints.
Rock candy syrup,	2 pints.
Glycerine,	2 pints.
Proof spirits,	35 gallons.
Sugar coloring, "Two Stars,"	Sufficient.

Another concern in New York has issued a circular to the wholesale liquor trade, from which the following extracts are taken: —

Maturity — Mellowness — Roundness of Flavor and Aroma — Snap — the true character of STANDARD GOODS — are not of necessity the product solely of old-fashioned ageing methods, — but they may with certainty be secured by the use of the —— Company's PURE NATURAL CONCENTRATIONS of the FRUITY PROPERTIES of fresh native and air-dried Oriental FRUITS. . . . Being pure fruit juice concentrations, the —— products are guaranteed absolutely healthful, and *they should not be confounded with ethereal oils, chemical extracts and the like.* . . .

BRANDOL (trade mark) will render young grape brandy mellow, will impart to it the ripeness of age, fruitiness and the true characteristics of French brandies.

WISCOL (trade mark) will greatly improve whiskies generally by mellowing their taste, enriching their flavor, imparting to them roundness on the palate, — in short, by *ageing them.*

WISCOLENE (trade mark) will impart the true characteristics of ripened condition to young whiskies and to proof spirits, and will free them from all rawness and fusil.

COMPARISONS as to cost with other flavoring methods: —

Taking whiskey as an example, for which now an average of 1 gallon fruit juice is taken per barrel, costing	$1 35
Glycerine or another sweetener is added, costing about	40
These, however, reduce the proof of the whiskey from 2½ to 4 per cent. Counting merely a reduction of 3 per cent. or 1½ gallons per barrel: — Loss at $1.50 per gallon,	2 25
Makes a total cost to the dealer per barrel of	$4 00
The cost of Wiscol per barrel at the contract price would be only	1 00
Showing a gain per barrel of whiskey of	$3 00

The saving of room and time, the independence of the dealer from his expert compounders, are further advantages secured by the use of the —— concentrations.

"*Brandol,*" "for brandies," costs $26 per gallon. Analysis of a sample proved it to be a strong alcoholic solution, containing considerable cane sugar and a somewhat larger amount of glycerine. A small amount of burnt sugar was also present, and some undetermined fruit essence. It

yields 9.14 per cent. of total solid matter, of which 4.10 per cent. is cane sugar, .03 per cent. mineral matter and 5.01 per cent. glycerine and other organic substances. The amount of alcohol present is 57.35 per cent. by volume.

"*Wiscol*," "best suited for improving character of whiskies generally and for ageing them," costs $12 per gallon. Analysis shows it to be very similar to "Brandol," in spite of the great difference in price. It yields 6.35 per cent. of total solids, of which 2.38 per cent. is cane sugar, .03 per cent. mineral matter and 3.94 per cent. glycerine and other organic substances. The amount of alcohol present is 57.64 per cent. by volume.

"*Wiscolene*," "for imparting to young whiskies or to proof spirits the mellowness and true character of naturally aged whiskies," costs $12 per gallon. This was found to yield a larger amount of burnt sugar than either of the other preparations, but no fruity odor was noticeable. It contains 3.04 per cent. total solids, of which 1.23 per cent. is cane sugar, .03 per cent. mineral matter and 1.78 per cent. glycerine and other organic substances. The amount of alcohol present is 43.69 per cent. by volume.

Which of the constituents of these preparations, which, it will be observed, are very similar in character, although widely differing in price, imparts "roundness on the palate," which the manufacturers appear to regard as a most valuable property, can hardly be determined.

A NEW LAW CONCERNING THE MISUSE OF MILK CANS.

Since the beginning of the work of inspection of dairies many complaints have been received that, while producers were being compelled to place their premises in proper sanitary condition, nothing was done to compel contractors to refrain from sending back to the producers, in worse than unwashed condition, the cans in which the fresh milk was to be forwarded to market. It is a fact well known throughout the milk business that a large proportion of milk cans delivered at retail stores, bake shops, and in many cases private dwellings, are returned to the milkman and by the milkman to the contractor and by the latter to the farmer in absolutely filthy condition. They are used as containers for swill and other offensive matter; they are used for cooking purposes; they are used for general kitchen purposes; and in many cases they are used for purposes unmentionable. It was not necessary for milk producers to forward disgustingly unclean specimens of cans to the office of the Board by way of evidence of their claim, for these practices on the part of the customers have long been known, and many examples of abuse of cans have been reported by the inspector of dairies. Producers who have communicated

their complaints to the office have been assured that at the earliest possible moment — that is to say, as soon as the Legislature should convene — an attempt would be made to bring them the much-desired relief from the imposition of being required to clean these filthy receptacles. Accordingly, the secretary of the Board prepared a petition in which the facts were set forth, and accompanied the same by the following bill, which, after consideration by the committee on public health, was reported favorably and passed both houses, and received the signature of His Excellency the Governor on March 1 : —

AN ACT TO PROHIBIT THE MISUSE OF VESSELS USED IN THE SALE OF MILK.

Be it enacted, etc., as follows :

SECTION 1. Whoever by himself or his servant or agent or as the servant or agent of any other person, firm or corporation, having custody of a milk can, measure or other vessel used as a container for milk destined for sale, places or causes or permits to be placed therein any offal, swill, kerosene, vegetable matter or any article other than milk, skimmed milk, buttermilk, cream or water or other agent used for cleansing said can, jar, bottle, measure or other vessel, shall be punished by a fine of ten dollars for each vessel so misused.

SECTION 2. Whoever by himself or by his servant or agent or as the servant or agent of any other person, firm or corporation, sends, ships, returns or delivers, or causes or permits to be sent, shipped, returned or delivered to any producer of milk any milk can, measure or other vessel used as a container for milk, containing any offal, swill, kerosene, vegetable matter or any other offensive material, shall be punished by a fine of ten dollars for each said vessel.

SECTION 3. Every licensed milk dealer who, directly or indirectly, receives milk contained in receptacles which are the property of another person, firm or corporation, shall, before selling said milk, transfer it to other clean vessels bearing his name, or the name under which his business is conducted, and no other; and said milk shall not be sold by him except from or in said vessels.

SECTION 4. Whoever violates the provisions of the preceding section shall pay a fine of ten dollars for each offence.

SECTION 5. Sections one and two of this act shall take effect thirty days after passage; sections three and four shall take effect four months after passage.

AN OUTBREAK OF TYPHOID FEVER IN MEDWAY.

Information received by the Board early in March led to the immediate investigation of sickness prevalent in a factory boarding-house in Medway. At the time of the inquiry no cases of typhoid fever had been reported to the local health officials either recently or for many months.

Investigation showed that within the period February 17–28, 13 of the 50-odd patrons of a boarding-house conducted for the use of the employees

of the Hirsh & Park straw hat factory, and known as the Metcalf House, had been taken sick. The attending physician pronounced the illness grippe, her diagnosis being confirmed by consultation with a physician from Milford. Several of the patients were said to have recovered sufficiently to enable them to return to their homes, while 3 had been removed to hospitals in Milford. Two persons had gone to their homes in Maine, and of them nothing further is known, excepting that they were there under treatment for typhoid fever. Of the 11 others, 1, a young man, was under the care of a Medway physician, who regarded the case as one of typhoid fever, reporting it as such to the local health officials on March 4. The serum test in this instance was positive, as it was also in the case of 2 patients who were permitted to go to Swampscott with temperatures of 104°, and who there came under the care of a physician who at once caused this test to be applied.

A positive reaction was also yielded by the blood of all of the patients in the Metcalf House and in the hospitals at Milford.

One of the patients, a young woman of twenty-seven, who had been transferred to a private hospital in Milford on March 7, died after a few days' treatment for grippe. Autopsy showed the characteristic lesions of typhoid fever.

The nature of this outbreak having been established, effort was made to determine the vehicle of contagion and the source of infection.

The milk used in the Metcalf House was derived from the same source as that used in many households in the town, in none of which did cases of typhoid fever exist.

The water supply of the house was found to be from two sources: (1) a well, situated under the house; and (2) the Charles River.

The well in question had been in use up to about February 1, the water being employed for general domestic purposes, including drinking. On or about February 1 the use of this water was discontinued, by reason of its offensive odor and taste, and for it was substituted, according to the statement of the proprietor, water from a well near his own house, several hundred yards distant.

Analysis of the water from the well under the Metcalf House showed it to be extremely polluted, and comparable with crude sewage. The source of the pollution was not apparent. The well is 20 feet distant from a cesspool, but the latter is fully drained and is cemented.

The water from the Charles River is derived from a main in the neighboring street, which was laid several years ago for fire protection. This main is supplied by a pump drawing water from a raceway which leads from the river just below the Sanford Mills. This water was distributed from a tank in the top of the house to the bath room and the kitchen. In

the latter it flowed from a faucet in the sink. According to the proprietor and the housekeeper, this water was never used for drinking purposes or for cooking.

A review of the evidence gathered in the course of this investigation led to the following conclusions: —

1. The outbreak was probably due to a single influx of infection, for nearly all of the persons stricken were taken sick within a period of ten days. The date of this infection must have been on or about February 1.

2. The place of infection was in all probability the dining room of the Metcalf House, because: —

(*a*) All of the persons taken sick were boarders at this house, and their number includes several who did not lodge in the house.

(*b*) A considerable number of persons must have been exposed to infection at one and the same time, for the infection was single, and the proportion of cases to the boarders (over 30 per cent.) very large, implying the reception of infective material by a large number of individuals.

(*c*) The only place in which persons stricken could have been so exposed was in this dining room.

3. The vehicle of contagion was undoubtedly water, because: —

(*a*) Evidence is wanting which would point to milk or ice as vehicles, for persons other than the boarders at the Metcalf House using milk and ice from the same sources as those supplying this house were not affected.

(*b*) The sorts of food served at the boarding-house at this season of the year were not such as to render infection through this channel probable. Oysters and other shellfish had not been served, uncooked, at the house.

(*c*) Polluted well water was in use in the house up to within about two weeks of the outbreak, and possibly less. This water upon analysis showed the characteristics of crude sewage.

(*d*) Polluted water from another source, the Charles River, was at all times available in the house. At a time when drinking water was being brought from a distance, the filling of the water jar in the dining room from the tap in the kitchen sink yielding this water, by an uninstructed or careless servant, was quite possible. Such an accident would fully account for the outbreak.

4. The primary source of infection in this epidemic cannot be absolutely established. No case of typhoid fever is known to have existed upon the premises of the Metcalf House prior to this outbreak, nor is there evidence to show whether or not any one among the boarders conveyed to the house the infective material which led to the outbreak.

ACUTE POISONING BY ACETANILID.

Dr. John Boyd Tyrrell of San Francisco reports ("Journal of the American Medical Association," March 31, 1906) the following case of poisoning by acetanilid: —

A man, aged fifty-two, suffering from severe headache and getting no relief from ordinary "headache pills" and "headache powders," bought an ounce of acetanilid and took what he said was a half teaspoonful. He was relieved of his headache in a short time, and in about two hours went down town to do some shopping. As he was walking down town he noticed that he was weak, but paid no attention to it. He went into a barber shop for a shave, and scared the barber by his "terrible blueness," as the barber expressed it. However, the barber shaved him, and felt very much relieved after the man had left the shop. From the barber shop the patient went to a clothing store, where one of the clerks noticed his condition. In a few minutes he was seen to sway, become extremely cyanotic, and go to the floor in a "dead faint." Dr. Tyrrell was called immediately, and found him in deep syncope, extremely cyanotic, and with pulse very feeble and rapid.

I gave him strychnia, digitalin and nitroglycerin in combination; also artificial heat and fresh air, and resuscitated him. In about three minutes he went into another attack of syncope. I again gave him nitroglycerin, gr. 1/100, to which his heart responded, and kept him quiet for several hours, during which time he had several slight attacks of syncope. Patient gradually recovered.

I believe that acetanilid poisoning is more common than is usually believed, due to the laxness of laws regulating the sale of such products, and especially the sale of the nostrums containing this treacherous drug as their principal ingredient.

EXCLUSION OF TUBERCULOUS PUPILS FROM SCHOOLS.

In November, 1905, the State Board of Health of Iowa passed a regulation that all persons afflicted with tuberculosis should be excluded from all schools and colleges within the State of Iowa; and the regulation has been held by the Attorney-General of that State to be legal, and having the force of law.

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WEEKLY RETURNS OF DEATHS FROM CITIES AND TOWNS OF MORE THAN 10,000 POPULATION.

Week ending April 7, 1906.

CITIES AND TOWNS.	Population.[1] Estimated for 1906.	Reported Deaths in Each.	Deaths under Five Years.	Deaths from—					
				Principal Infectious Diseases.	Acute Lung Diseases.	Phthisis.	Diphtheria.	Typhoid Fever.	Measles.
Boston,	602,528	247	62	39	42	29	2	1	1
Worcester,	130,171	43	16	2	3	–	–	–	–
Fall River,	105,943	42	19	12	11	5	–	–	–
Cambridge,	98,583	26	5	8	4	6	–	–	–
Lowell,	94,889	47	14	8	13	2	3	–	–
Lynn,	78,871	25	6	7	2	6	–	–	–
New Bedford,	77,006	25	9	5	2	5	–	–	–
Springfield,	76,255	18	4	–	5	–	–	–	–
Lawrence,	71,653	34	18	10	8	4	–	1	–
Somerville,	70,908	19	3	4	2	3	1	–	–
Holyoke,	50,824	16	4	1	7	1	–	–	–
Brockton,	49,511	12	–	3	3	–	–	–	–
Malden,	38,978	5	4	–	2	–	–	–	–
Salem,	37,970	10	4	–	–	–	–	–	–
Chelsea,	37,968	17	2	5	2	4	–	–	–
Haverhill,	37,962	16	4	5	1	4	–	–	–
Newton,	37,512	11	1	3	–	1	–	1	1
Fitchburg,	33,327	6	1	–	3	–	–	–	–
Taunton,	30,967	9	1	–	2	–	–	–	–
Everett,	30,173	6	3	–	–	–	–	–	–
Quincy,	28,995	6	4	–	2	–	–	–	–
Waltham,	26,881	9	1	–	5	–	–	–	–
Gloucester,	26,011	6	4	–	–	–	–	–	–
Pittsfield,	25,704	5	1	1	–	1	–	–	–
Brookline,	24,207	5	2	2	–	1	–	–	1
North Adams,	22,150	7	1	–	3	–	–	–	–
Chicopee,	20,402	7	3	–	1	–	–	–	–
Northampton,	20,175	6	–	–	2	–	–	–	–
Medford,	19,988	3	1	–	3	–	–	–	–
Beverly,	15,506	3	1	–	1	–	–	–	–
Hyde Park,	14,784	3	–	–	–	–	–	–	–
Newburyport,	14,715	7	0	–	2	–	–	–	–
Leominster,	14,712	1	–	–	–	–	–	–	–
Melrose,	14,578	1	1	–	–	–	–	–	–
Woburn,	14,432	7	1	2	1	1	–	–	–
Marlborough,	14,168	3	0	–	–	–	–	–	–
Westfield,	13,887	1	1	–	–	–	–	–	–
Peabody,	13,438	–	–	–	–	–	–	–	–
Revere,	13,168	5	1	2	1	2	–	–	–
Clinton,	13,105	3	2	–	2	–	–	–	–
Attleborough,	12,995	3	1	2	–	–	–	–	–
Adams,	12,775	2	2	1	1	1	–	–	–
Gardner,	12,267	–	–	–	–	–	–	–	–
Milford,	12,256	0	–	–	–	–	–	–	–
Weymouth,	11,638	3	0	–	–	–	–	–	–
Framingham,	11,598	8	2	–	1	–	–	–	–
Watertown,	11,597	1	0	1	–	1	–	–	–
Plymouth,	11,452	–	–	–	–	–	–	–	–
Southbridge,	11,206	3	–	1	–	–	1	–	–
Wakefield,	10,476	2	–	–	1	–	–	–	–
Webster,	10,280	–	–	–	–	–	–	–	–
Recapitulation.									
Total of reporting towns,	2,244,108	744	209	124	138	77	7	3	3

[1] The populations were estimated upon the rate of growth from 1900 to 1905. Those of Lowell, Taunton, Gloucester, North Adams and Clinton were allowed to stand as in 1905, having shown no increase during the five-year period.

WEEK ENDING APRIL 14, 1906.

CITIES AND TOWNS.	Population. Estimated for 1906.	Reported Deaths in Each.	Deaths under Five Years.	DEATHS FROM— Principal Infectious Diseases.	Acute Lung Diseases.	Phthisis.	Diphtheria.	Typhoid Fever.	Measles.
Boston,	602,528	234	75	50	43	29	5	–	2
Worcester,	130,171	35	4	2	7	–	–	–	–
Fall River,	105,943	40	18	10	10	5	–	–	–
Cambridge,	98,583	21	7	5	2	4	1	–	–
Lowell,	94,889	29	12	1	12	–	1	–	–
Lynn,	78,871	21	4	3	–	2	–	–	–
New Bedford,	77,006	36	15	7	5	2	–	–	1
Springfield,	76,255	14	5	5	2	5	–	–	–
Lawrence,	71,653	18	4	5	3	5	–	–	–
Somerville,	70,908	26	5	7	4	–	4	1	–
Holyoke,	50,824	15	6	1	1	–	–	–	–
Brockton,	49,511	8	1	2	–	2	–	–	–
Malden,	38,978	11	4	2	1	–	1	–	–
Salem,	37,970	–	–	–	–	–	–	–	–
Chelsea,	37,968	17	2	1	3	1	–	–	–
Haverhill,	37,962	14	5	3	3	1	–	1	–
Newton,	37,512	5	1	–	1	–	–	–	–
Fitchburg,	33,327	17	6	1	3	1	–	–	–
Taunton,	30,967	12	3	1	4	1	–	–	–
Everett,	30,173	7	1	4	–	2	–	1	–
Quincy,	28,995	8	3	3	–	2	–	1	–
Waltham,	26,881	6	2	–	1	–	–	–	–
Gloucester,	26,011	5	2	1	–	1	–	–	–
Pittsfield,	25,704	8	2	1	2	–	1	–	–
Brookline,	24,207	6	–	1	–	–	–	–	–
North Adams,	22,150	5	0	1	1	1	–	–	–
Chicopee,	20,402	3	2	–	1	–	–	–	–
Northampton,	20,175	5	2	–	1	–	–	–	–
Medford,	19,988	5	1	–	–	–	–	–	–
Beverly,	15,506	7	2	–	2	–	–	–	–
Hyde Park,	14,784	4	0	2	–	2	–	–	–
Newburyport,	14,715	2	0	1	1	1	–	–	–
Leominster,	14,712	2	–	–	2	–	–	–	–
Melrose,	14,578	1	0	–	–	–	–	–	–
Woburn,	14,432	3	1	–	1	–	–	–	–
Marlborough,	14,168	6	3	2	–	1	–	–	1
Westfield,	13,887	2	–	1	–	1	–	–	–
Peabody,	13,438	–	–	–	–	–	–	–	–
Revere,	13,168	2	1	1	–	–	–	–	–
Clinton,	13,105	1	0	–	–	–	–	–	–
Attleborough,	12,995	3	2	1	–	1	–	–	–
Adams,	12,775	–	–	–	–	–	–	–	–
Gardner,	12,267	6	3	3	2	2	–	–	–
Milford,	12,256	11	7	1	9	–	–	–	–
Weymouth,	11,638	2	0	1	–	1	–	–	–
Framingham,	11,598	3	–	–	–	–	–	–	–
Watertown,	11,597	2	0	1	–	1	–	–	–
Plymouth,	11,452	–	–	–	–	–	–	–	–
Southbridge,	11,206	3	–	1	–	1	–	–	–
Wakefield,	10,476	3	–	–	–	–	–	–	–
Webster,	10,280	–	–	–	–	–	–	–	–
Recapitulation.									
Total of reporting towns,	2,205,630	694	211	132	127	75	13	4	4

WEEK ENDING APRIL 21, 1906.

CITIES AND TOWNS.	Population. Estimated for 1906.	Reported Deaths in Each.	Deaths under Five Years.	DEATHS FROM— Principal Infectious Diseases.	Acute Lung Diseases.	Phthisis.	Diphtheria.	Typhoid Fever.	Measles.
Boston,	602,528	246	70	46	46	29	2	1	3
Worcester,	130,171	48	16	3	7	–	–	–	–
Fall River,	105,943	42	4	6	10	1	–	–	–
Cambridge,	98,583	28	5	4	7	3	–	–	–
Lowell,	94,889	32	14	6	6	3	–	–	–
Lynn,	78,871	19	–	1	3	1	–	–	–
New Bedford,	77,006	31	15	12	3	6	1	–	–
Springfield,	76,255	27	2	6	3	4	1	–	–
Lawrence,	71,653	27	10	7	5	4	–	1	–
Somerville,	70,908	26	5	5	7	1	1	1	1
Holyoke,	50,824	19	9	3	2	1	–	1	–
Brockton,	49,511	8	3	–	1	–	–	–	–
Malden,	38,978	11	6	2	1	2	–	–	–
Salem,	37,970	21	6	4	2	–	2	1	–
Chelsea,	37,968	13	7	1	1	–	–	–	–
Haverhill,	37,962	14	2	2	2	2	–	–	–
Newton,	37,512	6	1	–	2	–	–	–	–
Fitchburg,	33,327	15	8	–	3	–	–	–	–
Taunton,	30,967	14	2	1	2	1	–	–	–
Everett,	30,173	4	–	–	–	–	–	–	–
Quincy,	28,995	8	–	–	2	–	–	–	–
Waltham,	26,881	3	–	–	1	–	–	–	–
Gloucester,	26,011	6	2	–	1	–	–	–	–
Pittsfield,	25,704	7	–	1	1	1	–	–	–
Brookline,	24,207	8	1	1	–	1	–	–	–
North Adams,	22,150	6	1	1	–	–	–	–	–
Chicopee,	20,402	5	2	2	1	1	–	–	–
Northampton,	20,175	5	1	1	–	1	–	–	–
Medford,	19,988	5	1	–	2	–	–	–	–
Beverly,	15,506	5	3	1	–	–	–	–	–
Hyde Park,	14,784	3	1	–	–	–	–	–	–
Newburyport,	14,715	3	0	2	–	2	–	–	–
Leominster,	14,712	3	0	–	–	–	–	–	–
Melrose,	14,578	4	0	–	–	–	–	–	–
Woburn,	14,432	4	1	2	1	2	–	–	–
Marlborough,	14,168	3	0	–	1	–	–	–	–
Westfield,	13,887	5	–	2	1	2	–	–	–
Peabody,	13,438	–	–	–	–	–	–	–	–
Revere,	13,168	1	1	1	–	–	–	–	–
Clinton,	13,105	6	4	–	2	–	–	–	–
Attleborough,	12,995	0	–	–	–	–	–	–	–
Adams,	12,775	–	–	–	–	–	–	–	–
Gardner,	12,267	4	1	–	1	–	–	–	–
Milford,	12,256	9	4	1	4	–	–	–	–
Weymouth,	11,638	8	0	2	–	2	–	–	–
Framingham,	11,598	–	–	–	–	–	–	–	–
Watertown,	11,597	1	1	1	–	–	–	–	–
Plymouth,	11,452	–	–	–	–	–	–	–	–
Southbridge,	11,206	4	–	2	–	–	–	–	–
Wakefield,	10,476	4	–	1	1	1	–	–	–
Webster,	10,280	–	–	–	–	–	–	–	–
Recapitulation.									
Total of reporting towns,	2,232,002	771	209	130	132	71	7	5	4

WEEK ENDING APRIL 28, 1906.

CITIES AND TOWNS.	Population. Estimated for 1906.	Reported Deaths in Each.	Deaths under Five Years.	DEATHS FROM— Principal Infectious Diseases.	Acute Lung Diseases.	Phthisis.	Diphtheria.	Typhoid Fever.	Measles.
Boston,	602,528	225	61	45	41	30	5	–	2
Worcester,	130,171	39	16	7	9	1	–	–	1
Fall River,	105,943	44	19	10	7	4	1	–	–
Cambridge,	98,583	29	7	5	6	5	–	–	–
Lowell,	94,889	40	12	7	6	5	–	–	1
Lynn,	78,871	19	4	4	2	3	–	–	–
New Bedford,	77,006	27	13	6	4	2	3	–	–
Springfield,	76,235	25	5	5	1	2	1	–	1
Lawrence,	71,653	21	10	6	–	2	–	–	2
Somerville,	70,908	20	3	4	3	2	–	–	–
Holyoke,	50,824	21	10	2	6	1	–	–	–
Brockton,	49,511	10	2	3	–	2	–	–	–
Malden,	38,978	10	1	3	–	3	–	–	–
Salem,	37,970	14	–	2	–	2	–	–	–
Chelsea,	37,968	19	6	4	4	3	–	1	–
Haverhill,	37,962	10	2	3	–	1	1	–	–
Newton,	37,512	15	6	–	1	–	–	–	–
Fitchburg,	33,327	–	–	–	–	–	–	–	–
Taunton,	30,967	7	3	–	2	–	–	–	–
Everett,	30,173	7	–	1	–	1	–	–	–
Quincy,	28,995	5	1	1	–	1	–	–	–
Waltham,	26,881	5	–	1	2	1	–	–	–
Gloucester,	26,011	–	–	–	–	–	–	–	–
Pittsfield,	25,704	10	–	–	2	–	–	–	–
Brookline,	24,207	7	4	1	1	1	–	–	–
North Adams,	22,150	9	0	1	3	1	–	–	–
Chicopee,	20,402	5	1	1	1	1	–	–	–
Northampton,	20,175	10	1	–	–	–	–	–	–
Medford,	19,988	2	–	–	2	–	–	–	–
Beverly,	15,506	6	–	–	2	–	–	–	–
Hyde Park,	14,784	4	1	–	–	–	–	–	–
Newburyport,	14,715	2	0	–	–	–	–	–	–
Leominster,	14,712	4	1	–	–	–	–	–	–
Melrose,	14,578	2	0	1	–	1	–	–	–
Woburn,	14,432	3	2	–	–	–	–	–	–
Marlborough,	14,168	5	0	1	–	1	–	–	–
Westfield,	13,887	–	–	–	–	–	–	–	–
Peabody,	13,438	–	–	–	–	–	–	–	–
Revere,	13,168	3	1	1	–	–	–	–	–
Clinton,	13,105	4	1	1	2	1	–	–	–
Attleborough,	12,995	4	0	–	1	–	–	–	–
Adams,	12,775	–	–	–	–	–	–	–	–
Gardner,	12,267	4	2	–	2	–	–	–	–
Milford,	12,256	–	–	–	–	–	–	–	–
Weymouth,	11,638	4	–	–	1	–	–	–	–
Framingham,	11,598	5	4	–	1	–	–	–	–
Watertown,	11,597	5	3	–	1	–	–	–	–
Plymouth,	11,452	–	–	–	–	–	–	–	–
Southbridge,	11,206	5	3	3	–	1	–	–	–
Wakefield,	10,476	–	–	–	–	–	–	–	–
Webster,	10,280	–	–	–	–	–	–	–	–
Recapitulation.									
Total of reporting towns,	2,004,337	715	205	129	113	78	11	1	7

WEEKLY RETURNS OF DEATHS FROM CERTAIN INFECTIOUS DISEASES.

DEATHS FROM INFECTIOUS DISEASES NOT SPECIFICALLY MENTIONED IN ABOVE TABLES DURING THE WEEKS OF APRIL 7, 14, 21, AND 28, 1906.

DISEASE.	Place.	WEEK ENDING—			
		Apr. 7.	Apr. 14.	Apr. 21.	Apr. 28.
Cerebro-spinal meningitis,	Boston,	3	7	2	1
	Worcester,	1	2	1	4
	Fall River,	–	–	1	1
	Cambridge,	1	–	1	–
	Lowell,	3	–	2	1
	Lynn,	1	1	–	–
	Lawrence,	2	–	–	–
	Brockton,	3	–	–	–
	Somerville,	–	1	1	–
	Holyoke,	–	1	–	–
	Haverhill,	–	1	–	1
	Everett,	–	1	–	–
	Revere,	–	1	–	1
	Springfield,	–	–	1	–
	North Adams,	–	–	1	–
	Milford,	–	–	1	–
	Southbridge,	–	–	1	–
Scarlet fever,	Boston,	–	–	2	–
	New Bedford,	–	–	1	1
	Lynn,	–	–	–	1
	Haverhill,	1	–	–	–
	Somerville,	–	–	–	1
	Springfield,	–	–	–	1
Erysipelas,	Boston,	2	1	1	1
	Worcester,	1	–	1	–
	Milford,	–	1	–	–
	Somerville,	–	–	–	1
Whooping-cough,	Boston,	–	1	3	3
	Fall River,	–	1	1	–
	Lowell,	–	–	1	–
	Cambridge,	1	–	–	–
	Salem,	–	–	1	–
	Lawrence,	2	–	2	2
	Chelsea,	–	–	1	–
	Attleborough,	1	–	–	–
	Malden,	–	1	–	–
	Brookline,	–	1	–	–
	Beverly,	–	–	1	–
	Revere,	–	–	1	–
	Holyoke,	–	–	–	1
	Brockton,	–	–	–	1
Influenza,	Gardner,	–	1	–	–

WEEKLY RETURNS OF CASES OF INFECTIOUS DISEASES.

CASES OF INFECTIOUS DISEASES REPORTED DURING THE WEEKS OF APRIL 7, 14, 21 AND 28, 1906.

[Under the provisions of section 52 of chapter 75 of the Revised Laws.]

	WEEK ENDING—			
	Apr. 7.	Apr. 14.	Apr. 21.	Apr. 28.
Diphtheria,	129	109	101	134
Measles,	787	676	577	547
Scarlet fever,	122	121	93	120
Typhoid fever,	24	34	40	50
Cerebro-spinal meningitis,	13	5	8	10

MONTHLY REPORT ON INSPECTION OF FOOD AND DRUGS.

The following summary presents the results of the examinations of food and drugs made by the State Board of Health during the month of April, 1906: —

ARTICLES EXAMINED.	Number found to be of Good Quality.	Number adulterated or varying from the Legal Standard.	Total.	ARTICLES EXAMINED.	Number found to be of Good Quality.	Number adulterated or varying from the Legal Standard.	Total.
Milk,	227	46	273	Meat jellies,	2	2	4
Butter,	9	–	9	Blood pudding,	3	1	4
Cheese,	2	–	2	Lemon extract,	2	4	6
Cream,	9	–	9	Vanilla extract,	7	5	12
Condensed milk,	4	1	5	Oysters,	2	–	2
Evaporated cream,	–	1	1	Cereal flour,	3	–	3
Spices,	7	3	10	Grape juice,	3	1	4
Cream of tartar,	11	1	12	Honey,	9	–	9
Maple sugar,	2	1	3	Ale,	2	–	2
Maple syrup,	2	3	5	Beer,	2	–	2
Catsup and table sauces,	3	4	7	Ginger ale,	1	–	1
Cider,	1	1	2	Confectionery,	1	–	1
Canned beans,	1	–	1	Molasses,	11	–	11
Cocoa,	6	–	6	Salad dressing,	5	–	5
Coffee,	4	–	4	Pickles,	8	–	8
Hamburg steak,	3	1	4	Vinegar,	16	7	23
Lambs' tongues,	1	1	2	Liquid rennet,	–	1	1
Sausages,	32	7	39	Jellies and jams,	11	3	14
Mince meat,	3	4	7	Drugs,	24	10	34
Hogshead cheese,	3	1	4	Total,	442	109	551

Fines imposed, $461.

The samples of drugs found to be adulterated were: alcohol, cera alba, extractum glycyrrhizæ, extractum zingiberis fluidum, spiritus camphoræ, spiritus frumenti, and tinctura iodi.

The cities and towns in which samples were collected were: Boston, Worcester, Cambridge, Waltham, Salem, Lynn, Danvers, Stoughton, Canton, Milford, Greenfield, Hyde Park, Dedham, Grafton, Somerville, Braintree, South Framingham, Lawrence, Brockton, Andover, Clinton, Haverhill, Natick, Chelsea, Cochituate, Medford, Quincy, Melrose, Newburyport, Reading, Cambridge, Turners Falls, Revere, Chelmsford, Littleton and Lowell.

Correct conclusions as to the condition of the food supply cannot be drawn from the monthly reports, for it is the aim of the inspectors to collect samples which are most likely to show some form of adulteration. Articles which experience has shown to be rarely adulterated and brands known to yield uniformly good results are collected in but small numbers.

PROSECUTIONS FOR VIOLATIONS OF THE LAW RELATING TO FOOD AND DRUGS.

Twenty-eight convictions were secured during the month of April, 1906, for selling adulterated food and drugs, as follows: —

No.	Name of Defendant.	Place.	Character of Article sold.
1	Estes Goldkrand,	Boston,	Hamburg steak.
2	Horace E. Sherman,	Boston,	Raspberry preserves.
3	Fayette A. Amidon,	Worcester,	Frankfort sausage.
4	John A. Bierberback,	Worcester,	Ale.
5	Fred K. Rood,	Springfield,	Hamburg steak.
6	Milo K. Woodbury,	Springfield,	Hamburg steak.
7	William O. Sheldon,	Springfield,	Frankfort sausage.
8	Thomas E. King,	Springfield,	Frankfort sausage.
9	Chas. A. Wright,	Springfield,	Hamburg steak.
10	Olide Leger,	Haverhill,	Ale.
11	Thos. Coyne,	Haverhill,	Ale.
12	Joseph A. Ferron,	Lowell,	Milk.
13	Dana H. Elkins,	Wayland,	Milk.
14	Dana H. Elkins,	Wayland,	Cream.
15	Dana H. Elkins,	Wayland,	Cream.
16	Dana H. Elkins,	Wayland,	Cream.
17	Harry P. Young,	Grafton,	Milk.
18	Gilman P. Young,	Grafton,	Milk.
19	Fred. L. Fletcher,	Chelmsford,	Milk.
20	Fred. L. Fletcher,	Chelmsford,	Milk.
21	Robt. A. Watson,	Andover,	Milk.
22	William J. Molter & Co.,	Clinton,	Ale.
23	Patrick H. Morrison,	Clinton,	Ale.
24	William C. O'Malley,	Clinton,	Ale.
25	Robert Morgan,	Methuen,	Milk.
26	Napoleon F. Roy,	Methuen,	Milk.
27	S. Wesley Young,	Methuen,	Milk.
28	Isaac Wineapple,	Salem,	Milk.

Number of Sample.	Character of Sample.	Brand, or Name of Manufacturer, Wholesaler or Producer.	Results of Analyses.
388	"Hustler Brand" evaporated cream.	Scranton Condensed Milk Company, New York,	Evaporated skimmed milk; probable fat in original milk, 2.50 per cent.
3877 N,	"Empire State" condensed milk.	United States Condensed Milk, Deansboro, N. Y.,	Condensed skimmed milk; probable fat in original milk, 2.30 per cent.
122 M,	"Lowell's Best XXXX Cream of Tartar."	Horace S. Lowell, 150 State Street, Boston,	Large admixture of calcium sulphate, calcium acid phosphate, alum, and corn starch.
120 M,	Lemon extract,	Horace S. Lowell, 150 State Street, Boston,	.9 per cent. lemon oil; 65.72 per cent. alcohol.
3929 N,	"Kidder's Concentrated" vanilla extract.	Kidder & Co., Boston,	Contains coumarin; erroneous formula.
681	"Ragus Extract of Vanilla Compound."	Ragus Tea and Coffee Company, New York,	Contains coumarin; erroneous formula.
734	"Dime Brand" vanilla extract.	Highland Extract Company, Boston,	Contains coumarin; erroneous formula.
737	"Royal" vanilla extract,	John Burnett & Co., Boston,	Entirely artificial; colored with a coal tar dye.
253	White grape juice,	John C. Meier, Silverton, O., H. H. Robinson & Co., Boston, distributers.	Preserved with sulphurous acid.
899	"Schimmel's Strawberry Preserves."	American Preserve Company, Philadelphia, Pa.,	Admixture of apple stock, preserved with benzoic acid.
818	Frankfort sausage,	B. J. Bertels, Worcester, Mass.,	Preserved with borax.
819	Blood pudding,	B. J. Bertels, Worcester, Mass.,	Preserved with borax.
821	Hogshead cheese,	B. J. Bertels, Worcester, Mass.,	Preserved with borax.
867	Mince meat,	Geo. G. Fox Company, Boston, Mass.,	Preserved with benzoic acid.
905	Mince meat,	John Morrell & Co., Ottumwa, Ia.,	Preserved with benzoic acid.
911	Mince meat,	E. E. Gray Company, Boston, Mass.,	Preserved with benzoic acid.
3883 N,	"Hatchet Brand" mace,	Twichel Champlin Company, Portland, Me.,	Large admixture of wild mace.
820	Cruikshank's chili sauce,	Cruikshank Bros., Allegheny, Pa.,	Preserved with benzoic acid.
848	"The Gem Tomato Ketchup."	Mrs. Bradley, Odessa, Del.,	Preserved with benzoic acid.
910	"Sunny Side" chili sauce.	Tip Top Ketchup Company, Cincinnati, O.,	Preserved with benzoic acid.
160 M to 180 M, 202 M to 222 M,	Milk,	Fred L. Fletcher, Chelmsford, Mass.,	Contained added water.

INSPECTION OF DAIRIES.

During the month of April, 1906, 177 dairies were examined in the following places: —

Place.	Number examined.	Number found to present no Objectionable Features.	Number to which Letters were sent.
Boxford,	2	1	1
Georgetown,	11	8	3
Manchester,	5	3	2
Nahant,	5	2	3
Natick,	15	5	10
Newbury,	30	4	26
Newburyport,	30	7	23
Rowley,	1	–	1
Salisbury,	18	2	16
West Newbury,	60	7	53

Total number of dairies examined,	177
Number found free from objectionable conditions,	39
Number to which letters were sent,	138
Total number of conditions to wh ch attention was called,	593

The percentage of dairies which passed inspection was 21.47. The names of the owners of these dairies follow.

Boxford.

Matthews, William.

Georgetown.

Batchelder, Samuel P.
Bond, D. P.
Johnson, Joseph.
Jones & Holt.
Nelson D. Oscar (Byfield).
Noyes, Charles.
Town Farm (Byfield).
Woodbury, George.

Manchester.

Baker, R. & L.
Kimball, D. B.
Town Farm.

Nahant.

Killilea, George.
St. George, George.

Natick.

Brown, L. Alvin.
Patten, W. S.
Rudd, W. D.
Stillman, C. S.
Whittemore, Charles.

Newbury.

Brown, J. A. & D. B.
Forbes, Mrs. A. B. (Byfield).
Hill, William F. (Byfield).
Senior, Jos. W. (Byfield).

Newburyport.

Bartlett, Chas. S. (Storey Road).
Cole, Mrs. L. D. (High Street).
Gove, Frank (Turkey Hill Road).
Johnson, Wm. R. (High Street).
Kelliher, James (Hill Street).
Mosely, F. F. (Curson Mill Road).
Winkley, Paul T. (Parker Street).

Salisbury.

Dow, G. A.
Dow, Warren.

West Newbury.

Carr, George C.
Emery, Mary E.
Goodrich & Currier.
Kelso, John.
Mosely, F. S.
Poore, W. S.
Whittier, Geo. D.

Following is a list of owners of dairies which were passed on inspection during 1905, whose names have not already been published: —

Acton.

Barker, George A.
Coll, Abel.
Conant, Luther.
Coughlin, John F.
Cutler, E. H.
Daley, John.
Davis, Luther.
DeSouza Bros.
Durkee, John E.
Farrar, Abel
Flagg, Clifton E.
Gould, H. A.
Hapgood, Benj.
Harris, S. B.
Holden, W. O.
Laurey, George F.
Mannion, Thomas J.
Mickelson, John.
Munro, Mrs. John C.
Murphy, George.
Oliver, Miss Susie.
O'Neil, Constantine.
Pope, Benjamin.
Reed, George.
Reed, Moses A.
Risso, A.
Robbins, Webster E.
Rudolph, Wm. H.
Shapley, E. R.
Spinney, E. L.
Stevenson, John M.
Taylor, Moses.
Town Farm.
Tuttle, Horace F.
White, John S.

Agawam.

Brown, A. H.
Granger, Wm. H.
Humerson, Ira.

Ashland.

Anthony, Thos.
Keens, E. H.
McIntyre, J. H.

Bedford.

Brown, A. M.
Cartwright, F. S.
Clark, Mrs. B.
Gates, S. D.
Hanson, Olen.
Hooper, W. S.
Jenks, G. W.
McGovern, John.
McGrath, Edw.
Meyers, Michael.
Mortenson, Nelson.
Packee, A. H.
Pfeifer, E. Jr.
Pickman, D. L.
Skilton, George A.
Spredby, J. W.
Town Farm.

Bellingham.

Farr, J.
O'Connor, J.
Quinlan, S.
Symmes, Wallace.
Thayer, L. F.
White, Carrol.

Berlin.

Allen, C. H.
Ayers, W. H.
Brewer, L. W.
Cooley, T.
Hastings, Arthur.
Naugher, Edw.
Porter, S. E.
Rice, W.
Spofford, C. E.
Tyler, Jas. D.
Wheeler, Henry.

Billerica.

Abel, Frank.
Biggerstaff, W. J.
Buckley, John.
Harlow, Geo. H.
Holman, Peter.
Jaquith, F. & J.
Jones, A.
Kanelly, Pat.
Maybury, O.
Morris, E. W.
Parker, J. W.
Rock, George L.
Simonds, George E.
Smith, C.
Start, E. A.
Stearns, A.

Bolton.

Callahan, C.
Cunningham, Paul.
Daniels, Miss C. J.
Emerson, Edw. D.
Emerson, G. T.
Hamblin, F. J.
Hemenway, L. A.
Houghton, Albert.
Hurlburt, Jas. H.
Litchfield, W. E.
Newton, G. B.
Wheeler, Chas. C.
Wheeler, F. A.

Boxborough.

Cunningham, P. W.
Page, Mrs. A.

Carlisle.

Biggi, A.
Blaisdell, B. F.
Cooke, Fred C.
Davis, J. P.
Dunn, George.
Simeonson, Mrs. Anna.
Skelton, C. A.
Town Farm.
Wilkins, George.
Wilson, H. W.

Chelmsford.

Andrews, Edw.
Brown, J. H.
Byam, Charles.
Davis, Henry P.
Edwards, Wm. C.
Greene, Harry.
Hubbard, Chas.
Kilbourne, W. W.
McDonald, Jos.
McFarlin, Miss E.
Perham, E. C.
Spalding, M. G.
Warren, Jos.

Clinton.

Harris, Mrs. A. K.
Kavis, Herman.
Sawyer, Eli.

Concord.

Albree, Geo.
Baker, Geo. M.
Brigham, H. W.
Brown, B. W.
Carthy, Jas.
Derby, Mrs. Nathan.
Jones, A. C. H.
Jones, Geo. E.
Tompkins, Lester.
Wheeler, A. G.
Wright, Geo. H.

Enfield.

Thurston, Jacob.

Everett.

Petersen, John.

Framingham.

Bacon, Geo. A. (Nobscot).
Barton, C. C.
Belknapp, C. A.
Bowditch, N. I.
Bowlker, F. J.
Estabrook, E. L.
Fenton, L. B.
Gould, L. F. (South).
Harrington, Fred H. (Nobscot).
Hessel, R.
Holmes, John A. (Nobscot).
Hunt, M. B.
McIntire, C. (Saxonville).
Neyhart, A.
Parsons, C. P.
Stenson, A. O.
Warren, E. R. (Nobscot).

Franklin.

Bacon, A. O.
Fowne, Mrs. Charlotte.
Gates, Herbert.
Martell, Ezra.
Neal, James.
Ray, James.
Smythe, Alva.
Tower, Mrs. Mary E.
Ward, Henry.

Groton.

Bancroft, Gen. Wm. A.
Graves, Joseph.
Kelley, Michael.
Rock, J. L.
Shattuck, H.
Vining, Miss Floretta.

Harvard.

Brown, W. H.
Cushing, Mrs. A.
Davis, J. H.
Dickinson, D. H.
Farnsworth, S. M.
Hapgood, J. G.
Hutchinson, A. A.
Lougee, S. N.
Parker, N. F.
Scales, Mrs. R. P.
Sprague, Charles E.
Warner, Mrs. M.

Hingham.

Foley, Cornelius.

Holliston.

Alger, H. A.
Blumerman, H.
Bradbury, A.
Brooks, Geo. E. M.
Champney, John.
Cline, Abram.
Cutler, M. E.
Cutler, Uriel.
Gooch, A. H.
Monks, W. J.
Nottage, F. A.
Phimister, Geo.
Pollard, M. S. P.
Shaw, F. H.
Shillaher, C. P.
Stinson, H. A.
Swallow, W. M.
Whitney, Joel T.
Woodsum, M. B.

Hopkinton.

Baldwin, F. F.
Claflin, W. W.
Drugan, P. F.
Hayes, A. S.
Perrin, A.
Thayer, J.

Hubbardston.

Clark, W.
Gleason, F. A.
Littlefield, A.
Tilton, Edgar.
Wilson, J

Lancaster.

Cutter, C. F.
Sullivan Est., John.
Town Farm.

Lexington.

Cutler, Frank.
Munroe, Jas. L.
Paine, Mrs. J. G.
Shoules, W. A.
Simonds, F. K.

Lincoln.

Blodgett, N. S. H.
Blodgett, W. A.
Brooks, A. S.
Bulger, I.
DeNormandie, W. J.
Jaynes, C. P.
Johnson, Walter.
Jose, Eugene,
Murphy, Michael.

Littleton.

Boyd, B. C.
Brown, Isaac.
Brown, Marshall.
Cook, Geo. A.
Drew, Curtis W.
Flagg, E. V.
Fletcher, D. C.
Kimball, Charles A.
Kimball, Fred.
Morse, R. P.
Nixon, James.
Pingree, F. S.
Sampson, Bradford.
Sanderson, Geo. W.
Stone, Geo. F.
Town Farm.
Watts, C. F.
Whitcomb, J. H. D.
Whitcomb, P. S.
Wing, H.
Works, H. F.

Longmeadow.

Bowles, H. L.

Marlborough.

Frye, John A.
Howe, Elmer D.
Huntington, H. P.
Lincoln, Charles.
McNiff, J. P.
Shaughnessy, Jerry.
Temple, Theo.

Maynard.

Fowler, H. B.

Mendon.

Bates, Lewis.
Darling, Geo. H.
Estey, John W.
McTurk, Thos.
Parkinson, G. A.
Williams, Rufus.

Methuen.

Emmeringer, John.
Flockerzi, Jacob.

Milford.

Baldwin, E. D.
Town Farm.
Winslow, J. C.

Needham.

Walker Gordon Company.

Norfolk.

Bright, W. H.
Donnelly, Pat.
Flagg, Elmer.
Poore, Elliott.

Northborough.

Allen, W. O.
Ashley, Edward.
Balcom, Norman.
Bemis, Chas. R.
Chapdelaine, O.
Dean, Edwin.
Esterbrook, J. D.
Fawcett, D. A.
Fredericks, Fritz.
Mayo, C. E.
Valentine, Everett.
Wilson, Mrs. L. J.
Woodward, T. C.

North Reading.

Eames, J. H.

Pepperell.

Adams, G. W.
Bancroft, S. P.
Dennen, W. F.
Gilson, J. H.
Herrod, W. A.
Shattuck, G. E.
Wright, F. O.

Princeton.

Downey, M.
Gleason, S. F.
Marcon, J. B.
Olsen, Alfred.
Sanderson, C. F.

Sherborn.

Bardwell, F.
Bean, C. A.
Brown, Rev. H. M.
Butler, Thos. R.
Channing, Walter, Jr.
Fleming, Geo. W.
Goulding, D. H.
Grout, F.
Harthertz, F. C.
Hodge, W. H., Jr.
Littlefield, C. O.
Merriam, J.
Moore, J. F.
Nash, H. E.
Paul, E. F.
Whipple, T.
Whitney, Geo. L.

Shirley.

Clark, H. S.
Merriam, F. E.

Southborough.

Baker, F. A.
Deerfoot Farm.
Gilmore, A.
Miller, George.
Sears estate, J. M.

Springfield.

Benson, Clarence A.

Sterling.

Bacon, Henry.
Burpee, J. S.
Buttrick, Mary E.
Flagg, Geo. F.
Gould Bros.
Kendall, Luther B.
Keyes, Geo. H.
Lawrence, J. O.
McGee, Thomas.
Olsen, H. H.
Petersen, P. C.
Pratt, J. T.
Robinson, J.
Stone, John E.
Stuart, G. F.
Tuttle, A.
Walker, Wm. L.
Wilder, A. W.

Stow.

Flagg, E. H.
Hallock, F. R.
Nickerson, N. E.
Whitney, Cyrus.

Sudbury.

Austin, Clarence.
Bright, W. E.
Chase Bros.
Cummings, G. P.
Dakin, A. A.
Farrell, D.
Huntley, L. H.
Rogers, H. H.
Town Farm.

Townsend.

Barber, O. D.
Beckonert, G. H.
Kelley, H. L.
Lithrow, P.
Scales, A.

Upton.

Jourdan, Benj. A.
Knowlton & Sons.
Sadler, H. S.
Town Farm.

Wayland.

Loring, Miss A. P.
Moore, J. L.
Seaverns, R.
Shaw, Francis.

Westfield.

Fowler, Charles F.
Thayer, Wm.

Westford.

Des Jardine, O.
Fletcher, Henry.
Foss, A. H.
Gladu, P.
Hildreth, Chas. L.
Hutchinson, Stephen.
Sweetser, J. F.
Wright, F. C.

Weston.

Coburn, Albert.
Coburn, Arthur.
Fiske, N. S.
Green, Edw.
Hagar, Leslie.
Jennings, Edw.
Lamson, Geo. H.
Merriam, Chas.
Town Farm.
Vittum, Darius.
Walker, Grant.
Winsor, Robert.

West Springfield.

Lee, Fred.
Leonard, Harry P.
Woodward, C. M.

Wilbraham.

Bliss & Sons, E.
Bliss, H. M.
Kallmans, Wm.
Sessions, W. J.

Woburn.

Pushee, Frank M.

Enfield, Conn.

Church Family (Shakers).
North Family (Shakers).

Somersville, Conn.

Keeney, M.

West Suffield, Conn.

Barnett, John.
Sparks, Everett.

THE MILK SUPPLY OF SALEM, MARBLEHEAD AND NEWBURYPORT.

The city of Salem is supplied with milk from neighboring towns. The contributing dairies have all been reported upon in this publication. It is impossible to obtain more than an approximate estimate of the amount delivered daily, inasmuch as many of the dealers do business not only in Salem, but in Beverly, Peabody and Danvers. As near as can be determined, the per capita daily consumption is .66 pint.

Newburyport draws its milk chiefly from dairies already reported upon, situated in Newburyport, West Newbury, Rowley and Salisbury, and

within the city limits. The per capita daily consumption is unusually high, — .85 pint.

By far the greater part of the Marblehead milk supply is produced within the limits of the town; that not so produced is sent in by one of the principal milk-contracting concerns of eastern Massachusetts. At the present time the per capita daily consumption of milk is .63 pint. During the summer months, when the population is practically doubled, a large amount of milk is brought in from Topsfield, Wenham, Hamilton and other towns, the dairies in which have all been examined.

A MEDICAL MILK COMMISSION ESTABLISHED.

At a meeting of the Suffolk District Medical Society, held April 28, 1906, the committee appointed to report upon the expediency of establishing a "milk commission," under the direction of the society, submitted the following report: —

Report

The attention of the public has repeatedly been drawn to the connection between ordinary market milk and the high rates of infant mortality, especially in urban communities; and the importance of a clean milk supply is now becoming recognized, not only by the medical profession, but by the more intelligent of the lay public.

While the producer of a clean, and therefore wholesome, milk supply is put to a greater expense in maintaining his plant, he competes on equal terms with the dealer in milk containing pus, cow dung and other contaminations, and receives the same price per quart. There are in this immediate neighborhood a number of persons who maintain scrupulously neat dairies, and produce milk which is as free from bacteria as constant care and watchfulness can make it; and doubtless there are others who would go to larger expense for help in the running of their dairies, were there any hope of public recognition of the fact that, even at a higher price per quart, clean milk is much cheaper in the end than dirty milk.

At present the public have no means of knowing of whom they can secure milk fit for human consumption, and specially adapted to infants during the perilous months of hot weather.

In a number of cities, both in this country and abroad, milk commissions have been appointed to issue certificates to those whose premises, cattle, methods of production and product conform to certain standards of sanitary excellence, according to the testimony of the veterinarians, chemists and bacteriologists employed. The certificates issued grant permission to the recipients to advertise the fact that their milk has been certified by disinterested persons as being produced under proper sanitary conditions, and conforming in chemical composition to established standards. The right, so given, is for a limited time only, at the expiration of which further examination must be made, in order that the certificate may be renewed.

So far as your committee has been able to ascertain, it is customary for the applicant to pay to the several persons employed by the commission in making the veterinary, chemical and bacteriological examinations a sum aggregating about $30, which sum it seems to your committee is sufficient to discourage, to some extent, those who might be inclined to go into the clean milk business, especially since, in the event of a failure to comply in any one respect, the sum is as good as lost. Moreover, for each subsequent examination the expenditure of the same amount is required; and to those who know the difficulties of competing in the market with dirty milk, this sum is a considerable tax.

In the event of the creation of a commission with the backing of the society, arrangements have been made which will obviate this disadvantage, gratuitous veterinary, chemical and bacteriological service having been offered.

In the belief that in no other way can the question of pure, clean, sanitary milk be better promoted, and improvement in the rates of infant mortality be secured, your committee recommends the appointment of a commission, to consist of not more than five physicians, to be known as the "Milk Commission of the Suffolk District Medical Society." Your committee does not presume to offer any rules or regulations concerning standards and methods to be followed by such a commission, but offers, individually and collectively, to be of any possible assistance to the commission in formulating a policy and establishing standards.

The report was accepted, and the following votes were offered and passed: —

Voted, That it is the sense of the Suffolk District Medical Society that a milk commission should be established, to be known as the "Milk Commission of the Suffolk District Medical Society."

Voted, That the chairman be authorized and directed to appoint five physicians to serve as such commission.

Voted, The members of such commission shall serve without compensation; they shall make such rules and regulations concerning certification as, in their discretion, they may deem proper; they shall make such arrangements to secure such competent gratuitous veterinary, chemical and bacteriological service as may be available; and they shall submit annually a report of their doings for the preceding year. They shall fill any vacancies that may occur in their membership.

AN OUTBREAK OF TYPHOID FEVER IN FISKDALE.

In response to a request from the local board of health for advice in regard to an epidemic in Fiskdale, a village in the town of Sturbridge, an investigation was conducted in April which revealed the presence of numerous cases of typhoid fever in this community.

Prior to this outbreak, which occurred during the first two weeks of April, Fiskdale had been comparatively free from typhoid fever. One case of the disease was reported in October, 1905, 2 were reported in February, and 1 was reported early in March, 1906.

At the time of the investigation 11 cases had been reported to the local board of health, the persons stricken having all been taken sick between March 25 and April 7.

Information obtained from the local physicians indicated that about 40 persons were then sick, some of whom were regarded as suffering from typhoid fever, while in others its presence was suspected. The symptoms generally present were: (1) fever; (2) diarrhœa; (3) abdominal pain; (4) prostration. In no instance had the serum test been applied.

The investigation included the visiting of families in which sickness was present, and obtaining from many of the patients specimens of blood for the serum test; the determining the source of the milk and water used by the patients; and inquiring into the nature of the private water supply of the Fiskdale Company.

The 44 cases of sickness investigated were distributed among 26 families, in 12 of which 2 or more persons were ill. A large proportion of the patients were French Canadians, the older persons being employed in the Fiskdale Cotton Mills. One of the patients, a young man who returned to his home in Fiskdale about April 1, was ill at the time of his arrival, and unquestionably acquired the disease out of town. In but one instance was the time relation between the onset of the disease in different members of the same family such as to admit of regarding a later case as secondary to an earlier.

The age periods were represented among the patients as follows: —

	Cases.
One to five years,	7
Six to ten years,	8
Eleven to eighteen years,	19
Over eighteen years,	10

Of these 44 cases, 23 were children in school or under the school age, 17 were mill operatives, and 3 were employed at home.

The distribution of these cases in the village was general. The 4 persons stricken in the fall, winter and early spring lived on Main Street. Those taken sick during the outbreak in April lived in different parts of the town, in some instances at a considerable distance from the village proper. A large proportion of the sick persons lived in houses owned by the Fiskdale Company.

The serum test for typhoid fever was applied in 29 cases, representing 20 families. In 17 instances the test was positive, and in 1, clinically typhoid fever in the third week of the disease, it was reported as "incomplete." Of the 11 cases in which the test was negative, the persons affected had been ill for less than one week. Of the 12 families in which several persons were sick, in 11 the serum test was applied to 1 or more

members; and in 10 families it was positive in the case of at least 1 person. The tests were made in the laboratory of the State Board of Health.

In view of the results of the serum test, it seems justifiable to regard all of the patients who presented the same general symptoms as suffering from typhoid fever, and to assert that there was no room for doubt as to the nature of the epidemic.

The source of the *milk* used by the sick persons was determined in 30 cases. Each of the two principal milk dealers of the town supplied 13 of the patients, a third dealer supplied 3; and 1 patient used milk from a private source. In 4 instances the patient was a member of a family in which no milk was used.

The source of the *water* used by the infected persons in their homes was found to be as follows: —

Fiskdale Company's system,	36
Wells,	7

The 36 persons who used reservoir water for drinking purposes at home include many who had no other supply. This water is led into all of the 121 tenements let by the company, representing some 60 or 70 houses. Some of these houses have wells, but very few of these were in use. In many cases the reservoir water is the only supply present in the house. All of the 23 children affected, who naturally had no access to the mills, lived in families in which reservoir water was regularly used for drinking purposes. In but one instance did an individual in whose house both reservoir and well water were available regularly use the latter for drinking.

The 7 persons who depended for domestic water supply upon wells were all adults. Six of these lived in houses not supplied by the Fiskdale Company's system, and in families which obtained their water supply solely from wells on the premises. One of these 7 persons was taken sick two weeks after the return to her family of her brother, who on April 1 came to Fiskdale from out of town, and was at that time suffering from typhoid fever. This case was probably secondary. A second case was that of a young man in whose house reservoir water was used, but, it is alleged, not for drinking. The remaining 5 persons were all employed in the weave room of the No. 1 Mill, a part of the mill which, during the month of March, was supplied with reservoir water for drinking purposes.

It thus appears that, of the persons known to be ill at the time of the investigation (excluding the out-of-town case and the secondary case dependent upon it), all but 1 regularly drank reservoir water, either at home or at their place of employment.

The water used in the private system of the Fiskdale Company, and through service pipes carried into all of the dwelling houses owned by this company, is drawn from the Quinebaug River. It is taken from the tail

race of the lower of the two mills, which derives its water power from a mill pond between this mill and one above. This pond receives surface drainage from near-by streets, and house sewage from several dwellings on Main Street. Two sewers empty into this pond, one about 30 feet and another about 100 feet above the sluice which conveys water to the lower mill. It is probable that the sewage so discharged includes that from one or more of the houses on Main Street, in which typhoid fever occurred during the late winter and early spring. The houses in question are provided with privies, and the sewage does not include that from water-closets.

The outlets of these sewers stand in such relation to the sluice as to favor the entrance of the sewage into the sluice, and to prevent its dispersion through the mill pond.

Analysis of the water furnished by the Fiskdale Company showed it to be of much better quality than would have been supposed, in view of the facts just stated. This may be accounted for by the relatively high stage of the river, and the abundant flow of water. It is not at all inconsistent with the specific pollution of the water with typhoid bacilli.

Prior to the installation of this system of water supply, several years ago, the Fiskdale Company, as required by statute, sought the advice of the State Board of Health with reference to a source of water supply. At that time it was proposed to draw water from certain tubular wells. The company was advised that the supply from these wells might safely be increased by proper filtration of the river water. In this advice was contained the implication that the unfiltered river water was unfit for public supply.

The facts gathered in the course of this investigation may be summarized as follows: —

(1) An outbreak of sickness, explosive in character, and involving no less than 40 persons, occurred during the first two weeks of April.

(2) Ample evidence shows the disease to have been typhoid fever.

(3) The persons affected included many children, individuals not employed in the mills.

(4) From the nature of the epidemic it is evident that it was not due to the spread of infection by contact.

(5) There is no evidence of the agency of milk as a vehicle of contagion.

(6) With but one or two exceptions, all of the affected persons had regularly used for drinking purposes, either at home or at their work, at least during the month of March, the water furnished by the Fiskdale Company.

(7) This water was drawn from a mill pond receiving sewage from near-by houses. It is probable that this sewage includes that from two dwellings in one of which typhoid fever occurred in October, and in another in the early part of March.

From these facts may be drawn the following conclusions: —

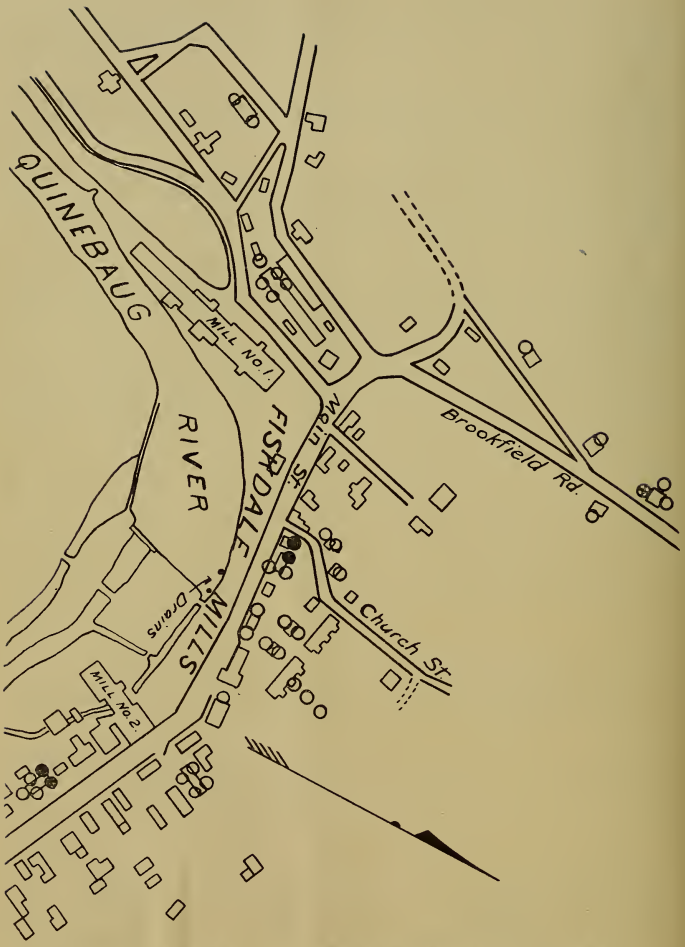
(1) The epidemic followed a sudden influx of infection at about the middle of March. This is shown by its explosive nature and by the date of the outbreak.

(2) The vehicle of contagion of necessity was one with a general distribution, and one which conveyed infection to many of the infected persons (children) in their homes.

(3) The only such vehicle common to practically all of the infected persons was water from the Fiskdale Company's supply. All of the facts point to water-borne infection. There is no evidence that milk, food stuffs or contact played any part in the outbreak.

(4) The water supplied by the Fiskdale Company is drawn from a source freely exposed to pollution; water which may have easily received typhoid bacilli from sewage infected by the persons who suffered from typhoid fever prior to the present outbreak.

The accompanying map shows the distribution of the cases, and also the outlets of the sewers in relation to the sluice whence the water supply is drawn.



Map of Fiskdale showing Location of Cases of Typhoid Fever.

● Cases prior to the outbreak. ⊕ Case from out of town.

○ Cases in present epidemic.

DEATHS FROM CHLORAL IN PROPRIETARY MIXTURES.

A certain proprietary medicine, containing a number of active ingredients, one of which is chloral hydrate, is said recently to have been the cause of death of two individuals. According to the Philadelphia "Evening Telegraph" of February 13, and a number of New York newspapers, a young man took of this drug the amount usually prescribed, and an hour later was found to be poisoned beyond all hope.

According to the Bangor (Me.) "Commercial" of March 8, a man of fifty-five years was found dead in a hotel in Augusta on the preceding Sunday. When the body was found, eleven one-ounce bottles of this preparation were found about the room or on his person; nine were entirely empty, and the other two were half full. None of the bottles indicated purchase on a physician's prescription.

POISONING BY ACETANILID.

Dr. D. T. Quigley of North Platte, Neb., reports, in a recent issue of the "Journal of the American Medical Association," a case of poisoning due to a proprietary medicine, the average dose of which contains 7 grains potassium bromide, 3 grains acetanilid and .8 grain of caffein. The patient had taken, instead of a teaspoonful, a heaping tablespoonful. When seen, the pulse was thready, irregular and intermittent, about every third beat being dropped. "When I first entered the room I was struck by the dirty appearance of the patient's hands, but on examining them more closely I found they were not dirty, but cyanotic. The lips had the same dirty, bluish appearance, and the ashy grey color of the face reminded me of a cadaver. The temperature was 96° F. The man was bordering on collapse, and I think would have died had not his stomach been emptied and stimulants administered."

HOW COFFEES ARE SOMETIMES "FINISHED."

A specimen of so-called "Coffee Finish," which coffee roasters in Massachusetts have been offered by an enterprising New York house, has been submitted to analysis in the laboratory of the Board. The promoters state that, when used in the manner recommended, which is to sprinkle the coffee with the "finish" as it comes from the roaster and while it is in the cooler, and then let it cool in the ordinary way, a coffee of common grade

is made to appear to be of greatly superior quality. The "finish" is offered at two cents per pound, in barrel lots, and the seller guarantees that "the weight saved will more than pay for the goods." The prospective buyer is informed that the preparation has been sold all over the United States during the past few years, and that no complaint has ever been received from those using it.

Analysis shows "Coffee Finish" to be merely a two per cent. solution of caramelized dextrine and dextrose. Not only would its use within this Commonwealth be illegal, in consequence of its causing an article of food to be "colored, coated, polished, or powdered in such a manner as to conceal its damaged or inferior condition," or to be "made to appear better or of greater value than it is," but the compound itself is a fraud in a different way, inasmuch as two cents' worth of caramelized dextrine and dextrose dissolved in water would make very many pounds of the "finish," instead of one pound; and one could buy in small packages, instead of in "barrel lots."

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WEEKLY RETURNS OF DEATHS FROM CITIES AND TOWNS OF MORE THAN 10,000 POPULATION.

Week ending May 5, 1906.

CITIES AND TOWNS.	Population,[1] Estimated for 1906.	Reported Deaths in Each.	Deaths under Five Years.	Deaths from— Principal Infectious Diseases.	Acute Lung Diseases.	Phthisis.	Diphtheria.	Typhoid Fever.	Measles.
Boston,	602,528	226	62	36	43	14	2	2	6
Worcester,	139,171	38	13	9	7	3	2	–	1
Fall River,	105,945	44	12	13	7	4	–	–	–
Cambridge,	98,583	28	10	8	2	5	–	–	–
Lowell,	94,889	37	11	10	12	6	–	–	–
Lynn,	78,871	20	3	3	4	1	1	–	–
New Bedford,	77,006	29	15	6	4	4	1	–	–
Springfield,	76,255	19	7	5	6	2	1	1	–
Lawrence,	71,555	23	12	6	2	2	1	–	–
Somerville,	76,908	20	6	5	4	2	1	1	–
Holyoke,	50,824	15	7	3	1	1	–	–	–
Brockton,	49,511	16	6	2	3	1	–	–	–
Malden,	38,978	12	5	–	2	–	–	–	–
Salem,	37,970	10	2	–	–	–	–	–	–
Chelsea,	37,968	16	5	4	1	1	1	–	–
Haverhill,	37,962	5	–	–	1	–	–	–	–
Newton,	37,512	14	4	2	–	2	–	–	–
Fitchburg,	33,327	–	–	–	–	–	–	–	–
Taunton,	30,967	15	5	1	4	–	–	–	–
Everett,	30,173	3	2	–	–	–	–	–	–
Quincy,	28,995	4	2	1	1	1	–	–	–
Waltham,	26,881	6	3	–	2	–	–	–	–
Gloucester,	26,011	4	1	1	–	–	1	–	–
Pittsfield,	25,704	–	–	–	–	–	–	–	–
Brookline,	24,207	9	–	1	1	1	–	–	–
North Adams,	22,150	6	1	3	–	3	–	–	–
Chicopee,	20,402	1	1	–	–	–	–	–	–
Northampton,	20,175	12	2	2	2	–	1	–	–
Medford,	19,988	5	2	–	1	–	–	–	–
Beverly,	15,506	3	–	–	–	–	–	–	–
Hyde Park,	14,784	4	–	1	–	–	–	–	–
Newburyport,	14,715	5	1	3	1	3	–	–	–
Leominster,	14,712	2	–	–	–	–	–	–	–
Melrose,	14,578	2	1	–	–	–	–	–	–
Woburn,	14,432	14	5	3	1	1	–	–	–
Marlborough,	14,168	4	0	2	–	1	1	–	–
Westfield,	13,887	3	–	1	–	1	–	–	–
Peabody,	13,438	–	–	–	–	–	–	–	–
Revere,	13,168	3	–	1	–	1	–	–	–
Clinton,	13,105	3	1	1	–	1	–	–	–
Attleborough,	12,995	3	2	1	1	–	–	–	–
Adams,	12,775	5	1	2	–	2	–	–	–
Gardner,	12,267	3	1	1	–	–	–	–	–
Milford,	12,256	6	1	1	–	1	–	–	–
Weymouth,	11,638	2	0	–	–	–	–	–	–
Framingham,	11,598	–	–	–	–	–	–	–	–
Watertown,	11,597	1	0	1	–	–	–	–	–
Plymouth,	11,452	–	–	–	–	–	–	–	–
Southbridge,	11,206	3	–	1	–	1	–	–	–
Wakefield,	10,476	3	–	–	1	–	–	–	–
Webster,	10,280	–	–	–	–	–	–	–	–
Recapitulation.									
Total of reporting towns,	2,185,746	704	212	140	114	65	13	4	7

[1] The populations were estimated upon the rate of growth from 1900 to 1905. Those of Lowell, Taunton, Gloucester, North Adams and Clinton were allowed to stand as in 1905, having shown no increase during the five-year period.

WEEK ENDING MAY 12, 1906.

CITIES AND TOWNS.	Population. Estimated for 1906.	Reported Deaths in Each.	Deaths under Five Years.	DEATHS FROM—					
				Principal Infectious Diseases.	Acute Lung Diseases.	Phthisis.	Diphtheria.	Typhoid Fever.	Measles.
Boston,	602,528	226	79	32	34	12	1	2	2
Worcester,	130,171	37	12	4	1	–	–	–	–
Fall River,	105,943	29	13	3	5	3	–	–	–
Cambridge,	98,537	30	8	3	3	3	–	–	–
Lowell,	94,889	53	16	11	10	5	–	–	1
Lynn,	78,871	17	4	1	4	–	–	–	1
New Bedford,	77,006	14	4	4	1	–	–	–	–
Springfield,	76,255	25	2	8	3	4	–	2	–
Lawrence,	71,653	26	11	7	2	3	–	1	–
Somerville,	70,908	15	3	3	5	2	–	–	–
Holyoke,	50,824	20	5	5	2	4	–	–	–
Brockton,	49,511	10	3	1	–	1	–	–	–
Malden,	38,978	11	2	3	–	1	2	–	–
Salem,	37,970	17	2	3	–	2	1	–	–
Chelsea,	37,968	7	2	–	1	–	–	–	–
Haverhill,	37,962	8	1	–	2	–	–	–	–
Newton,	37,512	15	2	2	4	–	1	1	–
Fitchburg,	33,327	12	5	2	1	1	–	–	–
Taunton,	30,967	10	6	3	2	–	–	–	–
Everett,	30,173	5	2	1	–	1	–	–	–
Quincy,	28,995	8	–	3	–	3	–	–	–
Waltham,	26,881	7	–	1	–	1	–	–	–
Gloucester,	26,011	11	1	2	–	1	1	–	–
Pittsfield,	25,704	8	1	2	2	1	–	1	–
Brookline,	24,207	4	–	–	–	–	–	–	–
North Adams,	22,150	4	0	1	1	1	–	–	–
Chicopee,	20,402	7	6	1	–	–	–	–	–
Northampton,	20,175	9	2	–	–	–	–	–	–
Medford,	19,988	6	–	–	2	–	–	–	–
Beverly,	15,506	5	–	–	–	–	–	–	–
Hyde Park,	14,784	3	1	–	–	–	–	–	–
Newburyport,	14,715	8	0	1	1	–	–	1	–
Leominster,	14,712	3	1	–	–	–	–	–	–
Melrose,	14,578	5	1	–	–	–	–	–	–
Woburn,	14,432	5	–	1	1	1	–	–	–
Marlborough,	14,168	4	0	1	–	1	–	–	–
Westfield,	13,887	1	–	–	1	–	–	–	–
Peabody,	13,438	–	–	–	–	–	–	–	–
Revere,	13,168	1	–	–	–	–	–	–	–
Clinton,	13,105	6	1	1	–	–	–	–	–
Attleborough,	12,995	1	0	–	–	–	–	–	–
Adams,	12,775	5	–	1	3	–	–	–	–
Gardner,	12,267	2	1	–	–	–	–	–	–
Milford,	12,256	–	–	–	–	–	–	–	–
Weymouth,	11,638	1	0	–	–	–	–	–	–
Framingham,	11,598	3	2	–	–	–	–	–	–
Watertown,	11,597	2	0	–	1	–	–	–	–
Plymouth,	11,452	–	–	–	–	–	–	–	–
Southbridge,	11,206	–	–	–	–	–	–	–	–
Wakefield,	10,476	2	–	1	–	–	–	–	1
Webster,	10,280	–	–	–	–	–	–	–	–

Recapitulation.

Total of reporting towns,	2,232,913	708	199	118	92	51	8	8	5

WEEK ENDING MAY 19, 1906.

CITIES AND TOWNS.	Population. Estimated for 1906.	Reported Deaths in Each.	Deaths under Five Years.	DEATHS FROM— Principal Infectious Diseases.	Acute Lung Diseases.	Phthisis.	Diphtheria.	Typhoid Fever.	Measles.
Boston,	602,528	214	60	35	37	21	5	2	1
Worcester,	130,171	40	8	7	5	2	–	–	–
Fall River,	105,943	24	12	5	4	–	–	1	–
Cambridge,	98,583	31	7	6	4	2	–	–	–
Lowell,	91,689	33	12	8	4	4	2	–	1
Lynn,	78,871	24	6	1	5	–	–	–	–
New Bedford,	77,006	37	14	6	6	3	1	–	–
Springfield,	76,255	28	6	5	2	2	1	1	–
Lawrence,	71,653	27	8	6	6	2	–	–	–
Somerville,	70,508	20	3	5	2	3	–	–	–
Holyoke,	50,824	18	14	5	4	–	1	–	–
Brockton,	49,511	12	4	1	1	1	–	–	–
Malden,	38,978	10	3	1	3	1	–	–	–
Salem,	37,970	12	4	2	–	1	–	–	–
Chelsea,	37,968	10	5	–	4	–	–	–	–
Haverhill,	37,962	13	2	3	–	1	–	–	–
Newton,	37,512	8	2	1	–	1	–	–	–
Fitchburg,	33,327	9	1	2	–	2	–	–	–
Taunton,	30,967	12	1	1	1	1	–	–	–
Everett,	30,173	6	2	–	–	–	–	–	–
Quincy,	28,995	1	–	1	–	–	1	–	–
Waltham,	26,881	10	2	5	–	4	–	–	1
Gloucester,	26,011	3	2	–	–	–	–	–	–
Pittsfield,	25,704	8	–	–	–	–	–	–	–
Brookline,	24,207	8	1	1	1	–	–	–	–
North Adams,	22,150	7	1	–	1	–	–	–	–
Chicopee,	20,402	6	4	–	2	–	–	–	–
Northampton,	20,175	8	0	1	1	1	–	–	–
Medford,	19,988	3	1	–	1	–	–	–	–
Beverly,	15,506	4	1	–	–	–	–	–	–
Hyde Park,	14,784	7	–	–	–	–	–	–	–
Newburyport,	14,715	6	1	1	–	–	–	1	–
Leominster,	14,712	2	–	–	1	–	–	–	–
Melrose,	14,578	3	1	1	–	–	–	–	1
Woburn,	14,432	6	–	4	–	1	–	–	–
Marlborough,	14,168	5	0	2	–	–	–	–	–
Westfield,	13,887	6	3	1	1	–	–	–	1
Peabody,	13,438	–	–	–	–	–	–	–	–
Revere,	13,168	3	–	2	–	1	–	–	–
Clinton,	13,105	6	–	–	2	–	–	–	–
Attleborough,	12,995	3	0	1	–	1	–	–	–
Adams,	12,775	2	–	–	2	–	–	–	–
Gardner,	12,267	3	1	1	–	–	–	–	–
Milford,	12,256	5	1	–	1	–	–	–	–
Weymouth,	11,638	2	0	–	1	–	–	–	–
Framingham,	11,598	–	–	–	–	–	–	–	–
Watertown,	11,597	3	1	–	–	–	–	–	–
Plymouth,	11,452	–	–	–	–	–	–	–	–
Southbridge,	11,206	3	–	1	–	1	–	–	–
Wakefield,	10,476	2	–	–	1	–	–	–	–
Webster,	10,280	–	–	–	–	–	–	–	–

Recapitulation.

Total of reporting towns,	2,245,777	713	194	122	103	56	11	5	5

WEEK ENDING MAY 26, 1906.

CITIES AND TOWNS.	Population. Estimated for 1906.	Reported Deaths in Each.	Deaths under Five Years.	DEATHS FROM—					
				Principal Infectious Diseases.	Acute Lung Diseases.	Phthisis.	Diphtheria.	Typhoid Fever.	Measles.
Boston,	602,528	214	60	43	36	26	4	2	1
Worcester,	130,172	26	10	2	–	1	–	1	–
Fall River,	105,943	34	14	5	2	–	–	–	–
Cambridge,	98,583	31	9	6	5	2	1	1	–
Lowell,	94,889	36	10	5	4	4	1	–	–
Lynn,	78,871	20	6	4	2	1	–	1	–
New Bedford,	77,006	28	9	7	5	4	1	–	–
Springfield,	76,253	24	1	1	1	1	–	–	–
Lawrence,	71,653	23	9	2	4	3	–	–	–
Somerville,	70,908	16	5	5	–	–	–	–	–
Holyoke,	50,824	12	5	1	–	–	1	–	–
Brockton,	49,511	12	4	2	–	2	–	–	–
Malden,	38,978	8	1	2	–	2	–	–	–
Salem,	37,970	16	8	2	–	2	–	–	–
Chelsea,	37,968	14	4	1	3	1	–	–	–
Haverhill,	37,962	14	6	3	2	2	1	–	–
Newton,	37,512	5	1	2	–	2	–	–	–
Fitchburg,	33,327	8	3	1	1	–	–	–	–
Taunton,	30,967	11	3	2	1	1	–	–	–
Everett,	30,173	1	–	–	–	–	–	–	–
Quincy,	28,995	6	1	1	–	–	1	–	–
Waltham,	26,881	12	2	3	1	2	–	–	1
Gloucester,	26,011	9	1	–	–	–	–	–	–
Pittsfield,	25,704	6	1	–	–	–	–	–	–
Brookline,	24,207	4	–	1	1	1	–	–	–
North Adams,	22,150	8	0	2	1	2	–	–	–
Chicopee,	20,402	10	5	1	1	1	–	–	–
Northampton,	20,175	7	0	3	–	2	–	1	–
Medford,	19,988	4	–	–	1	–	–	–	–
Beverly,	15,506	6	1	1	1	1	–	–	–
Hyde Park,	14,784	2	1	–	–	–	–	–	–
Newburyport,	14,715	9	1	3	–	2	–	1	–
Leominster,	14,712	–	–	–	–	–	–	–	–
Melrose,	14,578	3	0	–	–	–	–	–	–
Woburn,	14,432	3	1	2	–	–	–	–	–
Marlborough,	14,168	1	0	–	–	–	–	–	–
Westfield,	13,887	3	1	–	–	–	–	–	–
Peabody,	13,438	–	–	–	–	–	–	–	–
Revere,	13,168	–	–	–	–	–	–	–	–
Clinton,	13,105	2	0	–	–	–	–	–	–
Attleborough,	12,995	–	–	–	–	–	–	–	–
Adams,	12,775	5	1	2	–	1	–	1	–
Gardner,	12,267	1	0	–	–	–	–	–	–
Milford,	12,256	–	–	–	–	–	–	–	–
Weymouth,	11,638	4	1	2	2	2	–	–	–
Framingham,	11,598	2	–	–	–	–	–	–	–
Watertown,	11,597	4	1	–	1	–	–	–	–
Plymouth,	11,452	–	–	–	–	–	–	–	–
Southbridge,	11,206	3	–	1	–	–	–	–	–
Wakefield,	10,476	2	1	–	1	–	–	–	–
Webster,	10,280	–	–	–	–	–	–	–	–

Recapitulation.

Total of reporting towns,	2,203,244	674	187	118	76	69	10	8	2

WEEKLY RETURNS OF DEATHS FROM CERTAIN INFECTIOUS DISEASES.

DEATHS FROM INFECTIOUS DISEASES NOT SPECIFICALLY MENTIONED IN ABOVE TABLES DURING THE WEEKS OF MAY 5, 12, 19, AND 26, 1906.

DISEASE.	Place.	WEEK ENDING—			
		May 5.	May 12.	May 19.	May 26.
Cerebro-spinal meningitis,	Boston,	3	3	2	2
	Worcester,	1	2	3	–
	Fall River,	1	1	–	–
	Lowell,	2	3	–	–
	Cambridge,	2	–	2	1
	Springfield,	1	1	–	–
	Somerville,	1	–	–	1
	Chelsea,	2	–	–	–
	Woburn,	2	–	3	1
	Watertown,	1	–	–	–
	Gardner,	1	–	–	–
	Taunton,	–	3	–	1
	Lawrence,	–	–	2	–
	Haverhill,	–	–	1	–
	Revere,	–	–	1	–
	New Bedford,	–	–	–	1
Scarlet fever,	Boston,	1	1	–	2
	Lynn,	1	–	–	–
	Fall River,	–	2	–	1
	Holyoke,	–	1	–	–
	Adams,	–	1	–	–
	Springfield,	–	–	1	–
	Marlborough,	–	–	1	–
	Cambridge,	–	–	–	1
	Woburn,	–	–	–	1
Erysipelas,	Boston,	4	4	1	–
	Worcester,	1	–	–	–
	Lowell,	1	–	1	–
	Brockton,	1	–	–	–
	Northampton,	1	–	–	–
	Springfield,	–	1	–	–
	Haverhill,	–	–	1	–
	Gardner,	–	–	1	–
	Marlborough,	–	–	1	–
Whooping-cough,	Boston,	1	5	3	4
	Lowell,	1	–	–	–
	Cambridge,	1	–	2	–
	Lawrence,	1	2	1	2
	Holyoke,	1	–	2	–
	Taunton,	1	–	–	–
	Attleborough,	1	–	–	–
	New Bedford,	–	1	–	–
	Fitchburg,	–	1	–	1
	Clinton,	–	1	–	–
	Lynn,	–	–	1	2
	Salem,	–	–	1	–
	Brookline,	–	–	1	–

WEEKLY RETURNS OF CASES OF INFECTIOUS DISEASES.

CASES OF INFECTIOUS DISEASES REPORTED DURING THE WEEKS OF MAY 5, 12, 19 AND 26, 1906.

[Under the provisions of section 52 of chapter 75 of the Revised Laws.]

	WEEK ENDING—			
	May 5.	May 12.	May 19.	May 26.
Diphtheria,	113	112	106	132
Measles,	455	457	476	283
Scarlet fever,	130	131	119	142
Typhoid fever,	22	27	20	32
Cerebro-spinal meningitis,	15	18	12	7
Tuberculosis,	52	57	46	58
Smallpox,	2	–	–	4

MONTHLY REPORT ON INSPECTION OF FOOD AND DRUGS.

The following summary presents the results of the examinations of food and drugs made by the State Board of Health during the month of May, 1906:—

ARTICLES EXAMINED.	Number found to be of Good Quality.	Number adulterated or varying from the Legal Standard.	Total.	ARTICLES EXAMINED.	Number found to be of Good Quality.	Number adulterated or varying from the Legal Standard.	Total.
Milk,	259	34	293	Grape juice,	5	–	5
Butter,	8	–	8	Lime juice,	1	–	1
Cheese,	1	–	1	Clams and oysters,	7	–	7
Cream,	16	1	17	Honey,	5	–	5
Spices,	8	1	9	Ale,	1	–	1
Cream of tartar,	3	–	3	Beer,	1	–	1
Maple sugar,	16	6	22	Confectionery,	3	2	5
Maple syrup,	3	3	6	Molasses,	14	–	14
Table sauces,	4	2	6	Salad dressing,	1	–	1
Cider,	1	–	1	Pickles,	5	–	5
Canned fruit and vegetables,	4	1	5	Vinegar,	18	22	40
Cocoa,	3	–	3	Non-alcoholic drinks,	6	1	7
Coffee,	1	–	1	Jellies and jams,	12	9	21
Hamburg steak,	4	4	8	Syrup,	–	1	1
Sausages,	28	4	32	Baking powder,	4	–	4
Head cheese,	1	3	4	Shredded cocoa-nut,	4	–	4
Meat jellies,	2	1	3	Dessert preparations,	3	–	3
Mince meat,	3	2	5	Drugs,	110	28	138
Tripe,	–	1	1				
Canned meats,	5	–	5				
Flavoring extracts,	18	8	26	Total,	592	134	726
Cereal flour,	4	–	4				

The samples of drugs found to be adulterated were: alcohol, calx chlorata, cera flava, extractum glycyrrhizæ, extractum zingiberis fluidum, oleum olivæ, spiritus camphoræ, spiritus frumenti, tinctura iodi and tinctura zingiberis.

The cities and towns in which samples were collected were: Boston, Cambridge, Somerville, Newton, North Adams, Pittsfield, Greenfield, Stoughton, Lexington, Newburyport, Hyde Park, Waltham, Watertown, Attleborough, Reading, Brockton, Woburn, Brookline, Springfield, Lawrence, Medfield, Worcester, Quincy, Lynn, Revere, Brockton, Chelsea, Lowell, Malden, Methuen, Medford, Winthrop, Peabody, Everett and Salem.

PROSECUTIONS FOR VIOLATIONS OF THE LAW RELATING TO FOOD AND DRUGS.

Thirty-nine convictions were secured during the month of May, 1906, for selling adulterated food and drugs, as follows: —

No.	Name of Defendant.	Place.	Character of Article sold.
1	Henry H. Robinson,	Boston,	Grape juice.
2	Marcellian Sirvian,	Boston,	Jellied head cheese.
3	Samuel F. Davis,	Boston,	Extract of lemon.
4	George A. Knowles,	Boston,	Extract of strawberry.
5	George A. Knowles,	Boston,	Cocoa.
6	George A. Knowles,	Boston,	Cloves.
7	Samuel S. Lightbody,	Boston,	Extract of lemon.
8	Samuel S. Lightbody,	Boston,	Extract of vanilla.
9	Horace S. Lowell,	Boston,	Extract of lemon.
10	Horace S. Lowell,	Boston,	Cream tartar.
11	Vincent H. Fairey,	Brockton,	Frankfort sausage.
12	Albert G. Smith,	Brockton,	Alcohol (wood).
13	Joseph A. Robidoux,	Brockton,	Frankfort sausage.
14	Joseph H. Hart,	Canton,	Whiskey.
15	Everett R. Reid,	Chelmsford,	Milk.
16	Everett R. Reid,	Chelmsford,	Milk.
17	Alexander F. Hodgen,	Greenfield,	Milk.
18	Robert J. Hodgen,	Greenfield,	Milk.
19	Charles F. Coates,	Greenfield,	Frankfort sausage.
20	Dennis F. Darling,	Greenfield,	Milk.
21	George M. Wason,	Haverhill,	Milk.
22	George H. Hadley,	Lawrence,	Vinegar.
23	George H. Hadley,	Lawrence,	Vinegar.
24	Michael F. Donovan,	Lawrence,	Milk.
25	Wm. H. Hennessey & Co.,	Lynn,	Beer.
26	Miles & Johnson,	Lynn,	Ale.
27	Nazareth Boomozian,	Methuen,	Milk.
28	Willard O. Putnam,	North Andover,	Milk.
29	Edward L. Chamberlain,	Reading,	Hamburg steak.
30	Ernest C. Mains,	South Boston,	Tincture iodine.
31	Herman Isenberg,	Springfield,	Frankfort sausage.
32	Allyn E. Howe,	Stoughton,	Alcohol
33	Dr. Wm. H. Jackson,	Stoughton,	Alcohol.
34	B. Joseph Bertels,	Worcester,	Frankfort sausage.
35	B. Joseph Bertels,	Worcester,	Frankfort sausage.
36	B. Joseph Bertels,	Worcester,	Blood pudding.
37	B. Joseph Bertels,	Worcester,	Hog's head cheese.
38	B. Joseph Bertels,	Worcester,	Chili sauce.
39	Geo. M. Keegan,	Worcester,	Frankfort sausage.

Fines imposed, $742.

Number of Sample.	Character of Sample.	Brand, or Name of Manufacturer, Wholesaler or Producer.	Results of Analyses.
1131	"Harold's" extract of lemon.	Harold & Co., Cambridge,	.9 per cent. lemon oil; 85.32 per cent. alcohol; no formula.
4119 N,	"Favorite" extract of lemon.	John T. Connor Corporation, Boston,	.3 per cent. lemon oil; 56.07 per cent. alcohol; no formula.
1066	"Royal" extract of lemon.	John Burnett & Co , Boston,	.3 per cent. lemon oil; 57.20 per cent. alcohol; no formula.
881	"Delmonico's" extract of lemon.	Fulton Chemical Company, Boston,	1.0 per cent. lemon oil; 68.36 per cent. alcohol; no formula.
1036	"Regal" extract of lemon.	Regal Extract Company, Boston,	.3 per cent. lemon oil; 55.55 per cent. alcohol; no formula.
1204	"Lexington" extract of lemon.	Wason & Co., Boston,	.2 per cent. lemon oil; 54 per cent. alcohol; no formula.
1037	Strawberry jam,	T. W. McKee, Boston,	Preserved with benzoic acid; no formula.
1241	Raspberry jam,	T. W. McKee, Boston,	Preserved with benzoic acid; no formula.
4069 N,	Red raspberry preserves,	Lutz & Schramm Company, Allegheny, Pa.,	Preserved with benzoic acid; no formula.
1154	"Our Triumph" strawberry jam.	Webster Thomas Company, Boston,	Preserved with benzoic acid; no formula.
630 M,	Currant jelly,	P. J. Ritter Conserve Company, Philadelphia, Pa.,	Preserved with benzoic acid; no formula.
4487 N,	"Rocky Ridge" maple syrup.	Rocky Ridge Maple Syrup Company, Boston,	80 per cent. refined cane sugar syrup.
1213	"True Fruit" raspberry shrub.	J. Hungerford Smith Company, Rochester, N. Y.,	Preserved with benzoic acid; no formula.
884	"Tomato flip,"	Tomato Flip Company, Chicago, Ill.,	Preserved with benzoic and salicylic acid; no formula.
933	"Tomato toner,"	The Raimer-Heinly Company, Danville, Ill., P. Dempsey & Co., Boston, distributers.	Preserved with benzoic acid; no formula.
1029	"Nerver,"	A. Bauer & Co., Chicago, Ill.,	Preserved with benzoic acid; no formula.
4229 N,	Ginger wine,	J. P. W von Laer, Boston,	Preserved with salicylic acid; no formula.
623 M,	Olive oil,	J. H. Beauvais, Springfield,	Cotton-seed oil.
1052	Cream,	Esté Creamery, Marlborough,	Preserved with formaldehyde.
670 M,	Milk,	Edward P. Gilley, Medford,	Total solids, 8.75 per cent.; contains 30 per cent. added water.

INSPECTION OF DAIRIES.

During the month of May, 1906, 266 dairies were examined in the following places: —

Place.	Number examined.	Number found to present no Objectionable Features.	Number to which Letters were sent.
Amesbury,	1	1	–
Arlington,	12	5	7
Belmont,	9	6	3
Dalton,	8	–	8
Lanesborough,	11	1	10
Marblehead,	26	9	18
Medford,	18	15	3
New Lenox,	2	–	2
Newton,	70	23	47
Pittsfield,	33	10	23
Salisbury,	19	6	13
Waltham,	35	15	20
Washington,	3	1	2
Watertown,	15	7	8

Total number of dairies examined,	262
Number found free from objectionable conditions,	99
Number to which letters were sent,	164
Total number of conditions to which attention was called,	660

The percentage of dairies which passed inspection was 37.79. The names of the owners of these dairies follow.

Amesbury.

Bean, Oscar.

Arlington.

Barry, Daniel.
Boles, Mrs. Dolly.
Lynch, Mrs. Thomas.
Murray, Robert.
Yates, Jesse.

Belmont.

Bacon, Charles (Waverley).
Hale, Charles (Waverley).
Henry, John W.
Ryan, Denis.
Quigley, Mrs. E.
Welsh, Michael (Waverley).

Lanesborough.

Baker, L. A.

Marblehead.

Adams, Charles.
Hathaway, Misses.
Hooper, Eben L.
Kowalski, J.
Larivee, Fred.
Pecker, Edward E.
Russell, Jos. W.
Sullivan, James.
Withum, Samuel B.

Medford.

Bankhead, J. E.
Chandler, F. E.
French, J. S.
Homer, W. M.
Kidder, Mrs. S. M.
Kirk, D. T.
McKeon, Anna.
Morrison, L.
Mulkerin, J. J.
Reed, C. A.
Samson, A. A.
Simmons, D. B.
Tyler, B. F.
Willis, H. E.
Wright, W. C.

Newton.

Appleton Farm.
Bacon Farm (Waban).
Bacon, Mrs. J. C. (Highlands).
Barry, Michael, Jr. (Centre).
Casey, James D.
Cunningham, Mrs. Mary (Auburndale).
Dennison, Mrs. Henriette (Centre).
Edmands, A. L.
Ellis, George H. (West).
Frye, Theophilus.
Gannon, T. F.
Hannon, Mary F. (Newtonville).
Hawkes, Geo. W. (Waban).
Hickey, Michael J.
Hurley, Frank (Centre).
Kincare, John E. (Centre).
McAdoo, R. J. (Newtonville).
O'Brien, John (West).
O'Kane, John (Chestnut Hill).
Quinn, Michael J. (Newtonville).
Redmond, J. W. (Newtonville).
Ross, Geo. (Centre).
Staples, Geo. P. (West).

Pittsfield.

Cutting, Walter.
Gale, A. D.
Hardy, James.
Larned, Miss F. J.
Milton, W. F. (Coltsville).
Newbery, John,
Stephens, Clarence.
Valentine Farm (M. S. Gardner, Manager).
Weller, E.
Wood, E. P., Jr.

Salisbury.

Bartlett, A. W.
Currier, J. W.
Pike, Charles J.
Pike, Frank N.
Pike, George.
Pike, Gilman.

Waltham.

Cunningham, R.
Cutler, E. C.
Cutting, Joseph.
Haniford, F. H. & A.
Hardy estate, J. K.
Jackson, Mrs. Geo.
Needham, Clarence B.
Newton, P. L.
Niver, J. B.
Runkle, John C.
Smith, C. F.
Smith, Nathan.
Viles, C. L.
Walker, J. M.
Warren, Miss C.

Washington.

Eichelsen, Phillip.

Watertown.

Brown, Ellen.
Clement, Clarence.
Gliddon, Chas.
Murray, Peter.
Peirce, A. T.
Ramsay, Robert.
Steele, A. T.

THE MILK SUPPLY OF PITTSFIELD.

The city of Pittsfield is supplied with milk by nearly 60 dairies, situated in Pittsfield, Dalton, Lanesborough, New Lenox and Washington, all of which have recently been inspected. The average per capita daily consumption is estimated at .59 pint.

CONDIMENTAL PREPARATIONS FOR INDISCREET DRINKERS.

A new class of preparations has recently come to light. They are sold by liquor dealers, and are intended to steady the nerves and counteract the effects of overindulgence in alcoholic beverages. Three preparations of this nature have thus far been analyzed. They prove to be nothing more than tomato catsup, containing red pepper and other spices, and also liberal amounts of salicylic acid or benzoic acid, or both, for purposes of preservation.

Tomato Flip. — "A bracer for a weak stomach. To be taken freely in large drafts."

This was found to be preserved with both benzoic and salicylic acids.

Tomato Toner. — "A hot one. Assists overworked stomachs, caused by excesses of any kind."

Found to contain much benzoic acid.

Nerver. — "Prepared for fine bar trade, a pure extract of tomato, particularly intended to soothe the nerves and regulate the stomach of all suffering from the effects of excessive drink. It is a great bracer after a 'hot night.'"

This contained a large amount of benzoic acid.

However good tomato catsup and red pepper may be for steadying nerves, one may reasonably doubt whether irritant substances, like salicylic and benzoic acids, will tend to soothe the delicate lining of the stomach, when that organ, in common with the rest of the system, has been abused by overindulgence in alcohol.

HOW TO MAKE JAMAICA RUM.

The New York corporation mentioned in the March "Bulletin" as advertising an "Essence Rye Whiskey" is offering a similar preparation known as "Essence Jamaica Rum," and provides the following recipe: —

To make Jamaica Rum.

Take of: —

Essence Jamaica Rum,	8 ounces.
Proof spirit,	40 gallons.
Glycerine,	1 pint.

Color with "sugar coloring."

Analysis of the preparation shows it to consist of ethyl acetate, with some amyl esters not identified.

NEW LAW CONCERNING PATENT MEDICINES.

The Legislature has passed the following act relative to patent medicines and foods. It will be chapter 386 of the Acts of 1906.

AN ACT RELATIVE TO THE LABELLING OF CERTAIN PATENT OR PROPRIETARY DRUGS AND FOODS.

Be it enacted, etc., as follows: —

SECTION 1. Upon every package, bottle or other receptacle holding any proprietary or patent medicine, or any proprietary or patent food preparation, which contains alcohol to an amount in excess of the amount shown to be necessary by the United States Pharmacopœia or the National Formulary as a solvent or preservative of the active constituents of the drugs contained therein, shall be marked or inscribed a statement of the percentage of alcohol by volume contained therein; and the provisions of section nineteen of chapter seventy-five of the Revised Laws shall apply to the manner and form in which such statements shall be marked or inscribed.

SECTION 2. Every package, bottle or other receptacle holding any proprietary or patent medicine or any proprietary or patent food preparation shall bear a label containing a statement of the quantity of any opium, morphine, heroin or chloral-hydrate contained therein, provided that the package contains more than two grains of opium, or more than one fourth grain of morphine, or more than one sixteenth grain of heroin, or more than eight grains of chloral-hydrate in one fluid ounce, or, if a solid preparation, in one avoirdupois ounce; and the provi-

sions of section nineteen of chapter seventy-five of the Revised Laws shall apply to the manner and form in which such statements shall be marked or inscribed.

Section 3. It shall be unlawful for any person to sell, or to expose or offer for sale, or to give or exchange, any patent or proprietary medicine or article containing cocaine or any of its salts, or alpha or beta eucaine or any synthetic substitute of the aforesaid.

Section 4. It shall be unlawful for any person to sell, or to expose or offer for sale, or to give or exchange any cocaine or alpha or beta eucaine or any synthetic substitute of the aforesaid, or any preparation containing the same, or any salts or compounds thereof, except upon the written prescription of a physician, dentist or veterinary surgeon registered under the laws of the Commonwealth; the original of which prescription shall be retained by the druggist filling the same and shall not again be filled.

Section 5. The provisions of sections three and four shall not apply to sales at wholesale made to retail druggists or dental depots nor to sales made to physicians, dentists or regularly incorporated hospitals.

Section 6. Whoever manufactures, sells or offers for sale any medicine or food preparation in violation of the provisions of this act shall be punished by a fine of not less than five nor more than one hundred dollars. It shall be the duty of the state board of health to cause the prosecution of all persons violating the provisions of this act; but no prosecution shall be brought for the sale at retail, or for the gift or exchange of any patent or proprictary medicine or food preparation containing any drug or preparation the sale of which is prohibited or restricted as aforesaid, unless the said board has, prior to such sale, gift or exchange, given public notice in such trade journals or newspapers as it may select that the gift, exchange or sale at retail of the said medicine or food preparation would be contrary to law.

Section 7. This act shall take effect on the first day of September in the year nineteen hundred and six. [*Approved May 11, 1906.*

POISONING FROM ACETANILID IN PROPRIETARY MEDICINES.

Dr. Albert E. Blackburn of Philadelphia reports, in the "Journal of the American Medical Association," XLVI., No. 23, the following case of acetanilid poisoning from the use of "bromo-seltzer": —

Patient. — I was asked by his mother to see the patient, a man, aged twenty-two years, recently married. The patient did not consider himself sick, and did not desire medical attention. It was with great difficulty that I obtained a distinct and correct history. I do not believe there was the intent to deceive, but his marked hebetude and obtuseness made it especially difficult to obtain a connected history. When the facts were finally obtained from his wife, and he was asked as to their correctness, he acknowledged their truthfulness, and promised to desist taking the drug.

History. — Following an acute illness some six months previous, he began taking an occasional dose of bromo-seltzer for headache. The relief desired was temporarily obtained, and as the headaches recurred, the bromo-seltzer was taken in larger amounts and at shorter periods. The quantity consumed grew larger and larger, until the six weeks previous to my seeing him his wife assured me he consumed as much as $4.50 per week, which is approximately ten or twelve bottles. The patient would sit for hours if undisturbed, complained of being tired, and was unable to perform muscular effort; there was dyspnea on exertion. He was given to attacks of despondency and again to outbursts of passion, in which he threatened violence, but soon collapsed.

Physical Examination. — His appearance was appalling; his face was ashy white, the lips and lobes of the ears blue; the fingers were deeply cyanosed up to the second joint. His mucous membranes were very pale; the pupils reacted to light and distance. His expression was vacant, seldom speaking until spoken to. The tongue was heavily coated with a white fur, red at tip and margins; breath the foulest I ever noticed. Bowels constipated; the pulse varied from 85 when at rest to 130 on the slightest exertion, regular, fair volume, low tension. The left ventricle was enlarged downward and to the left. The first sound of the heart was very weak; a soft systolic mitral murmur was present. The surface was cold and lifeless. Urine contained indican, but no albumen or casts. General tremulousness and loss of motor powers were marked. No blood examination was made.

To find the constituents of bromo-seltzer I wrote the Emerson Drug Company of Baltimore. Inasmuch as "Collier's Weekly" had lately given them a write-up, a member of the firm called. He told me that bromo-seltzer contained, to the 100 grains (a heaping teaspoonful): —

Acetanilid, ...	gr. ivss
Potassium bromid, ...	gr. x
Caffein, ...	gr. ii
Soda bicarb.	
Citric acid.	

The "Journal of the American Medical Association," Feb. 10, 1906, states its analysis to be, to the hundred parts: —

	Parts.
Potassium bromid, ...	10.53
Acetanilid, ...	4.58
Caffein, ...	1.20

Assuming an average dose to be a teaspoonful, — not heaping as above stated, — to weigh seventy-six grains, the dose would contain: —

	Grains.
Potassium bromid, ...	7
Acetanilid, ...	3
Caffein, ...	8

Since many people take a tablespoonful repeatedly, the quantity of acetanilid varies between twelve and fifteen grains, an amount which is exceedingly dangerous For "business reasons" the representative requested that I refrain from quoting him.

Course. — Herrick states in his paper that great difficulty is experienced in withdrawing the drug. This was not the case in this patient. He was plainly

told the cause of his trouble, and the effect if he continued taking it He was carefully watched but made no effort to secure the drug. At no time did he express a desire for it, which was probably due to the relatively short time of taking it. His improvement was steady, but slow. The cyanosis disappeared in about a week; the anemia was the last to disappear.

The treatment consisted merely of withdrawing the drug, administering the cardiac stimulants, strychnia and digitalis, and regulating the bowels.

Drs. A. E. Austin and R. C. Larrabee of Boston report, through the same publication, Vol. XLVI., No. 22, two cases of acetanilid poisoning due to the use of "Nervease."

Case 1. — A married woman of forty-three was seen in the out-patient department of the Boston City Hospital. She gave a long history of aural sepsis, beginning at the age of six years. She had suffered from occipital headaches as long as she could remember. In 1901 these became much worse, and in 1903 she came to the hospital complaining of this symptom and of vomiting and constipation. . . . In January, 1905, two years later, she returned to the hospital. For years she had been taking a proprietary headache powder sold under the name of "Nervease," — often as many as six powders a day, and sometimes even a whole box of ten. At first these gave relief to the pain, but for three weeks the headache had been unusually severe, and there had been some nausea. The urine had been red in color, and there was slight dyspnea, — not enough to be at all disabling She knew she was blue, but the fact had not appealed to her as indicating anything out of the way. Her appearance on the cold day when she first presented herself for treatment was most astonishing. The color was a deep, dusky blue. The lips and nails were at times almost black. In spite of this, her general condition was perfectly good, and there was no evidence of dyspnea or suffering. The pulse and respirations were not increased in rapidity. Apart from an easily palpable spleen, nothing further was found on physical examination. . . . She was directed to stop taking the powders, and potassium bromid was given instead. She was also given a capsule containing five grains of mass of ferrous carbonate and one-sixth of a grain of extract of nux vomica, three times daily; also, ten grains of potassium iodid three times daily. Three weeks later there was little or no cyanosis or headache. The color of the blood was normal.

Nearly a year later she returned to the clinic, stating that for several months the headaches had again become severe, and that she had had pain and swelling in the left ear. For a fortnight she had been using "Nervease" again, never more than two powders daily. The cyanosis had promptly returned, but, save for slight dyspnea, no other unfavorable symptom had accompanied it. . . . The skin showed the same blue color as before, but to a much slighter degree. The spleen was enlarged.

Case 2. — The patient, a female, unmarried, dressmaker, complained of headache on the top of her head for which she had been taking six "Nervease" powders daily. She complained of loss of energy and nausea, though she had not vomited. She also said that the night before coming under observation she had taken the contents of one box, or ten powders. The patient was livid,

with dark-blue nails. The pulse was tense and hard. The blood contained methemoglobin. . . .

The use of the powders was stopped, and the patient rapidly regained her health.

As the symptoms of both these cases were plainly attributable to the "Nervease," our next efforts were directed to the determination of the character of the deleterious ingredients in the remedy. Samples from two boxes were analyzed, the first bought Jan. 14, 1905, the second Jan. 31, 1906. The powders weigh approximately .5 gram; the substance is pink in color, with small glistening granules scattered through it, and has a pungent taste. It is but slightly soluble in water. This description applies only to the powders purchased in January, 1905; those bought in January, 1906, have camphor added, which is discernible not only by odor but by chemical tests. . . .

The average of two determinations of the acetanilid in this manner gave .281 gram, the difference between the samples purchased in 1905 and in 1906 being inconsiderable. As the dose is given as from .2 to .8 gram, with the maximum for twenty-four hours 1.3 grams, we can plainly see that the second patient, according to this, was taking 1.686 grams daily, and in one night had taken 2.81 grams of this substance. Yet in the circular accompanying the box we read: "Contains no opiate, and is *perfectly harmless.*" The camphor in the second sample was extracted from the residue from which the acetanilid had been removed with alcohol, and found to amount to .075 gram. The ordinary dose of camphor is from .13 to .65 gram, with a maximum daily amount of 1.3 grams, so that the danger from camphor is not great.

The lesson is, that drugs of this dangerous character should not be dispensed except on a physician's prescription, and their sale should be as strictly guarded as is that of strychnia or aconite. The use of a danger label would throw the responsibility of an overdose wholly on the patient. The German government limits the character of the ingredients which may enter a headache powder, openly sold to the public, to harmless substances, like bicarbonate of soda and caffein, and it seems that the time has arrived when this country should do likewise. The least that can be demanded of manufacturers of nostrums is that they state plainly on the label the ingredients of their preparation, and the amount of each. Surely they should not be permitted to label " perfectly harmless " a box of powders containing a drug so powerful for harm as acetanilid.

The authors rightly say that no class of remedies is subject to more abuse than the so-called "headache cures," and in no class is caution more needed, since the chief ingredient is almost always acetanilid.

It is of interest in this connection that a lady recently brought to the office of the Board a package of tablets which her children had found on the doorstep, samples being distributed, like handbills, from door to door. The preparation, known as "Phenyo-caffeine," was found to be composed of camphor, caffeine and acetanilid.

PULMONARY CONSUMPTION IN MASSACHUSETTS.

According to Bulletin No. 9 of the Decennial Census, 1905, issued by the Massachusetts Bureau of Statistics of Labor, there were in Massachusetts, on May 1, 1905, 3,146 consumptives, of whom 2,105, or 66.91 per cent., were native born, and 1,041, or 33.09 per cent., were foreign born. Of the total, 2,162, or 68.72 per cent., were at home, and 984, or 31.28 per cent., were in institutions.

The following table is self-explanatory: —

PERSONS AFFLICTED WITH CONSUMPTION: FOR THE STATE AND COUNTIES.

THE STATE AND COUNTIES.	NATIVE BORN.			FOREIGN BORN.			AGGREGATES.		
	At Home	In Institutions.	Total.	At Home.	In Institutions.	Total.	At Home.	In Institutions.	Total.
The State.	1,542	563	2,105	620	421	1,041	2,162	984	3,146
Barnstable, . .	15	1	16	–	–	–	15	1	16
Berkshire, . .	80	1	81	22	–	22	102	1	103
Bristol, , . .	87	9	96	50	6	56	137	15	152
Dukes, . . .	8	–	8	–	–	–	8	–	8
Essex, . . .	238	20	258	87	9	96	325	29	354
Franklin, . .	51	–	51	15	–	15	66	–	66
Hampden, . .	92	17	109	41	9	50	133	26	159
Hampshire, . .	42	13	55	16	7	23	58	20	78
Middlesex, . .	231	74	305	136	132	268	367	206	573
Nantucket, . .	2	–	2	–	–	–	2	–	2
Norfolk, . .	88	16	104	17	10	27	105	26	131
Plymouth, . .	108	39	147	26	27	53	134	66	200
Suffolk, . .	250	123	373	119	63	182	369	186	555
Worcester, . .	250	250	500	91	158	249	341	408	749

The number of consumptives in Boston on the day mentioned was 512. Outside of Boston, the cities returning the largest number afflicted with the disease, in excess of 50, were: Brockton, 52; Cambridge, 77; Fall River, 54; Lowell, 56; Lynn, 80; Worcester, 126.

The age periods are given in the following table: —

PERSONS AFFLICTED WITH CONSUMPTION: BY AGES.

AGE CLASSIFICATION.	Number.	Percentages.
4 years and under (infancy), ...	24	0.76
5 to 16 years (school life), ...	168	5.34
17 to 20 years (young persons), ...	272	8.65
21 to 25 years (adults), ...	474	15.07
26 to 45 years (adults), ...	1,363	43.32
46 to 60 years (adults), ...	501	15.92
61 to 70 years (adults), ...	212	6.74
71 to 80 years (adults), ...	103	3.27
81 years and over (adults), ...	26	0.83
Age not given, ...	3	0.10
Totals, ...	3,146	100.00

SOME GOOD RESULTS FROM PRACTICAL SANITATION.

In the "British Medical Journal" of May 19, 1906, is an abstract of a series of lectures delivered at St. Thomas's Hospital, London, on May 7, 9 and 11, by Baron Takaki, surgeon to the Tokyo Hospital, and late Director-General of the Medical Department of the Imperial Japanese Navy, wherein were shown the results of reform in the naval ration in practically eliminating the disease beri-beri, and the diminution in the amount of disease in the army, by reason of effective and intelligent sanitation. Comparing the morbidity and mortality statistics of the war with China with those of the recent war with Russia, the following facts appear, and demonstrate the vast difference wrought by scientific supervision of armies: cholera had practically disappeared; typhoid fever cases decreased from 37.14 to 9.26 per thousand men, the death-rate therefrom being almost halved; dysentery cases decreased from 108.96 per thousand men to 10.52, and the death-rate was brought down from 15.72 per thousand men to 2.68; malaria cases from 102.58 per thousand men to 1.96, and the death-rate was practically *nil*.

These remarkable results were due chiefly to progress in regard to food, drink, clothing, camping ground, etc. Special pains were taken to exterminate flies, and to prevent them from coming in contact with the articles of daily use and into the dwelling-houses. Nets were used at windows and doors, to prevent the entrance of flies, and also outside, to protect the exposed parts of the body when flies were abundant. The extensive use of nets doubtless had much influence in the remarkable decrease in the amount of typhoid, dysentery and malaria.

The Japanese were very careful in looking after their water supply; water carts and water-boiler carts were provided, and boiled-water stations were established. Each soldier carried a small mess tin, in which he could boil water when necessary. The soldiers filled their water bottles at the various stations with boiled water, and during the march, after exhausting their own individual supplies, they had to get water from the water-boiler cart, which always accompanied the troops when possible and necessary. When water had to be taken from a stream, it was drawn from the middle of the stream, so as to avoid any impurities from the banks; and even then the water was boiled before being used.

Before going into camp, not only was the source of water supply inspected, but also the condition of the house and the people living therein. Clothing was washed as often as opportunities offered, and that of each soldier was disinfected whenever it was thought necessary.

NOTES ON THE REDUCTION OF INFANTILE MORTALITY.

Day Nurseries in Glasgow.

According to "The Lancet", day nurseries are about to be opened in Glasgow for the benefit of the poorer class of working women. The charge for looking after an infant will be two cents per day. Children from one week to five years of age will be admitted, but either they must have no mother, or their mother must be employed at work outside. Only those families whose income is below one pound sterling per week may avail themselves of the accommodation. Another scheme under consideration in connection with the day nurseries is the providing of dinners for the older children of poor parents, at the rate of one cent per meal. Inasmuch as the greatest proportion of infantile mortality is among the poorer classes, who cannot give proper care to their infants, it is hoped that one of the results of this scheme will be the saving of many lives.

Low Infantile Death-rate in Le Creusot, and its Causes.

In the iron-manufacturing city of Le Creusot, France, the great majority of the thirty-two thousand inhabitants belong to the families of laborers in the iron works. Between 1893 and 1902, 8,054 births were registered; the number of deaths of infants under one year of age amounted to 891; the total mortality of the town being 5,375. Thus, the infantile mortality amounted to a little over 11 per cent., while that of France as a whole during the same decade was 16 per cent., and in certain manufacturing and industrial centres it was far higher. This is a most unusually low infantile death-rate, especially for a manufacturing community.

According to the "British Medical Journal," the results in Le Creusot have followed certain reforms instituted about twelve years ago by the Messrs. Schneider, who have encouraged improvements in the hygiene of the town, especially in the workmen's quarters; a judicious raising of salaries of workwomen, so as to allow of their fulfilling the duties of maternity in comfort; and, thirdly, the establishment of a system of efficient medical assistance. Women are not allowed to work beyond the fifth month of pregnancy nor to return to their work without certificate that they may do so without injury to themselves or to their offspring. The proportion of artificially fed infants is less than 20 per cent.

Governmental Investigation of Infantile Mortality.

The importance of dealing with the high infantile mortality and its causes is emphasized in the latest report of the Registrar-General of England and Wales. The Local Government Board is taking active steps to ascertain the causes of the excessive mortality, and to adopt such remedies as may appear to be possible. A conference between the president of the Board and representatives of a large number of municipalities was arranged for early in the month of May, to consider the whole question.

THE PENNSYLVANIA SCHOOL VACCINATION LAW.

The State Department of Health is much gratified over the opinion filed by Chief Justice Mitchell in disposing of the famous Waynesboro vaccination case. The people of Waynesboro openly defied the State authorities, and, to a certain degree, prevented the enforcement of the vaccination law. The action was followed by litigation, which was finally carried up to the supreme court. This tribunal not only sustained the right of the State health board to exercise police powers, but the opinion of Justice Mitchell takes a much wider sweep concerning the value of the statute, which requires that school children must be vaccinated before they shall be admitted to the public schools. The supreme court ruled that the act of 1895, requiring the exclusion from the public schools of children who have not been vaccinated, is a valid exercise of the police power of the State. Chief Justice Mitchell observed that the vast preponderance of opinion among intelligent and educated people is that vaccination is a highly useful ameliorative, if not always a preventive, of one of the greatest diseases that has in times past afflicted humanity, and that the regulation of it by statute is not only justifiable, but a wise and beneficent exertion of the police power over the public health. It was emphasized by the Waynesboro contestants that there had been no smallpox in the community for forty years, and that, consequently, the people should not be required to provide by vaccination against possible occurrence of an epidemic. Concerning this, Justice Mitchell stated that immunity for forty years in the past affords no guaranty of immunity for even forty days in the future, if a chance visitor from an infected locality or a borough resident returning from a visit to such a locality should bring with him the germs of infection. — Journal of the American Medical Association, May 26, 1906.

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WEEKLY RETURNS OF DEATHS FROM CITIES AND TOWNS OF MORE THAN 10,000 POPULATION.

Week ending June 2, 1906.

CITIES AND TOWNS.	Population.[1] Estimated for 1906.	Reported Deaths in Each.	Deaths under Five Years.	Deaths from—					
				Principal Infectious Diseases.	Acute Lung Diseases.	Phthisis.	Diphtheria.	Typhoid Fever.	Measles.
Boston,	602,528	240	75	31	49	21	2	–	1
Worcester,	130,171	39	17	5	3	2	–	–	–
Fall River,	105,943	18	4	7	2	3	–	–	–
Cambridge,	98,583	26	12	6	3	5	1	–	–
Lowell,	94,889	40	14	6	7	5	1	–	–
Lynn,	78,871	16	4	1	–	1	–	–	–
New Bedford,	77,006	12	3	2	–	1	–	–	–
Springfield,	76,235	33	4	3	1	2	–	–	–
Lawrence,	71,653	17	5	4	2	3	–	–	–
Somerville,	70,908	14	4	3	–	2	–	–	–
Holyoke,	50,824	12	5	3	–	1	–	–	1
Brockton,	49,511	19	4	3	4	1	–	–	–
Malden,	38,978	11	3	2	–	2	–	–	–
Salem,	37,970	18	3	3	3	1	–	1	–
Chelsea,	37,968	7	1	1	2	–	1	–	–
Haverhill,	37,962	8	3	2	–	1	–	–	–
Newton,	37,512	4	–	–	1	–	–	–	–
Fitchburg,	33,327	6	–	2	–	2	–	–	–
Taunton,	30,967	17	3	4	2	2	–	–	–
Everett,	30,173	6	–	1	–	1	–	–	–
Quincy,	28,995	4	2	–	–	–	–	–	–
Waltham,	26,881	11	3	1	–	1	–	–	–
Gloucester,	26,011	–	–	–	–	–	–	–	–
Pittsfield,	25,704	–	–	–	–	–	–	–	–
Brookline,	24,207	4	1	1	–	–	–	–	–
North Adams,	22,150	4	1	1	–	–	–	1	–
Chicopee,	20,402	3	2	–	–	–	–	–	–
Northampton,	20,175	7	1	–	1	–	–	–	–
Medford,	19,988	9	2	4	–	4	–	–	–
Beverly,	15,506	1	–	1	–	1	–	–	–
Hyde Park,	14,784	3	–	–	–	–	–	–	–
Newburyport,	14,715	7	1	3	–	2	1	–	–
Leominster,	14,712	6	2	–	1	–	–	–	–
Melrose,	14,578	6	0	1	1	1	–	–	–
Woburn,	14,432	2	–	–	–	–	–	–	–
Marlborough,	14,168	7	0	1	1	1	–	–	–
Westfield,	13,887	7	1	–	1	–	–	–	–
Peabody,	13,438	–	–	–	–	–	–	–	–
Revere,	13,168	3	1	–	–	–	–	–	–
Clinton,	13,105	4	1	–	–	–	–	–	–
Attleborough,	12,995	3	0	–	–	–	–	–	–
Adams,	12,775	3	–	–	–	–	–	–	–
Gardner,	12,267	–	–	–	–	–	–	–	–
Milford,	12,256	5	–	–	1	–	–	–	–
Weymouth,	11,638	4	1	1	–	1	–	–	–
Framingham,	11,598	2	–	–	–	–	–	–	–
Watertown,	11,597	0	–	–	–	–	–	–	–
Plymouth,	11,452	–	–	–	–	–	–	–	–
Southbridge,	11,206	1	1	1	–	–	–	–	–
Wakefield,	10,476	–	–	–	–	–	–	–	–
Webster,	10,280	–	–	–	–	–	–	–	–
Recapitulation.									
Total of reporting towns,	2,181,917	669	185	104	85	67	6	2	2

[1] The populations were estimated upon the rate of growth from 1900 to 1905. Those of Lowell, Taunton, Gloucester, North Adams and Clinton were allowed to stand as in 1905, having shown no increase during the five-year period.

WEEK ENDING JUNE 9, 1906.

CITIES AND TOWNS.	Population. Estimated for 1906.	Reported Deaths in Each.	Deaths under Five Years.	DEATHS FROM— Principal Infectious Diseases.	Acute Lung Diseases.	Phthisis.	Diphtheria.	Typhoid Fever.	Measles.
Boston,	602,528	224	56	52	19	32	3	1	1
Worcester,	130,171	39	13	12	1	7	1	–	–
Fall River,	105,943	31	16	10	6	3	–	–	–
Cambridge,	98,583	24	11	5	4	1	2	–	–
Lowell,	94,889	36	9	11	3	7	2	–	–
Lynn,	78,871	15	3	4	2	2	–	–	–
New Bedford,	77,006	15	8	3	2	2	–	–	–
Springfield,	76,255	19	3	4	–	3	–	–	–
Lawrence,	71,653	22	6	7	2	4	–	–	–
Somerville,	70,908	10	5	5	2	3	–	–	–
Holyoke,	50,824	13	5	2	1	–	–	–	–
Brockton,	49,511	12	1	1	–	1	–	–	–
Malden,	38,978	10	4	3	1	2	–	–	–
Salem,	37,970	9	2	2	–	1	–	1	–
Chelsea,	37,968	13	4	2	2	–	–	1	–
Haverhill,	37,962	–	–	–	–	–	–	–	–
Newton,	37,512	6	1	–	–	–	–	–	–
Fitchburg,	33,327	–	–	–	–	–	–	–	–
Taunton,	30,967	20	6	4	5	3	1	–	–
Everett,	30,173	6	3	2	–	2	–	–	–
Quincy,	28,995	6	1	2	2	2	–	–	–
Waltham,	26,881	9	2	–	1	–	–	–	–
Gloucester,	26,011	–	–	–	–	–	–	–	–
Pittsfield,	25,704	7	1	2	–	2	–	–	–
Brookline,	24,207	–	–	–	–	–	–	–	–
North Adams,	22,150	1	1	–	–	–	–	–	–
Chicopee,	20,402	8	2	2	–	2	–	–	–
Northampton,	20,175	5	1	–	–	–	–	–	–
Medford,	19,988	5	–	1	–	1	–	–	–
Beverly,	15,506	6	4	–	1	–	–	–	–
Hyde Park,	14,784	4	2	–	–	–	–	–	–
Newburyport,	14,715	1	0	–	–	–	–	–	–
Leominster,	14,712	7	5	1	1	1	–	–	–
Melrose,	14,578	3	0	1	–	1	–	–	–
Woburn,	14,432	7	3	1	1	–	–	1	–
Marlborough,	14,168	5	3	1	2	1	–	–	–
Westfield,	13,887	2	–	–	–	–	–	–	–
Peabody,	13,438	–	–	–	–	–	–	–	–
Revere,	13,168	3	–	–	1	–	–	–	–
Clinton,	13,105	2	1	–	–	–	–	–	–
Attleborough,	12,995	4	0	–	–	–	–	–	–
Adams,	12,775	3	1	1	1	1	–	–	–
Gardner,	12,267	3	2	–	–	–	–	–	–
Milford,	12,256	3	2	–	–	–	–	–	–
Weymouth,	11,638	3	0	–	–	–	–	–	–
Framingham,	11,598	7	–	2	1	1	–	–	–
Watertown,	11,597	1	1	–	–	–	–	–	–
Plymouth,	11,452	–	–	–	–	–	–	–	–
Southbridge,	11,206	6	2	4	–	1	–	–	–
Wakefield,	10,476	3	–	–	1	–	–	–	–
Webster,	10,280	–	–	–	–	–	–	–	–
Recapitulation.									
Total of reporting towns,	2,134,868	638	190	147	62	86	9	4	1

WEEK ENDING JUNE 16, 1906.

CITIES AND TOWNS.	Population. Estimated for 1906.	Reported Deaths in Each.	Deaths under Five Years.	DEATHS FROM— Principal Infectious Diseases.	Acute Lung Diseases.	Phthisis.	Diphtheria.	Typhoid Fever.	Measles.
Boston,	602,528	190	56	32	28	19	4	1	1
Worcester,	130,171	30	8	6	3	3	–	–	–
Fall River,	105,943	41	21	7	7	1	–	–	–
Cambridge,	98,583	31	11	8	5	3	–	–	–
Lowell,	94,889	38	9	12	4	6	3	–	–
Lynn,	78,871	22	4	3	2	2	–	1	–
New Bedford,	77,006	22	8	1	4	–	–	–	–
Springfield,	76,255	15	3	1	–	–	–	1	–
Lawrence,	71,653	16	3	2	3	–	–	–	–
Somerville,	70,908	22	6	2	3	1	–	1	–
Holyoke,	50,824	9	5	2	–	1	1	–	–
Brockton,	49,511	8	1	–	1	–	–	–	–
Malden,	38,978	10	2	3	–	3	–	–	–
Salem,	37,970	9	–	2	–	2	–	–	–
Chelsea,	37,968	15	5	3	3	2	–	–	–
Haverhill,	37,962	7	1	–	2	–	–	–	–
Newton,	37,512	10	–	–	1	–	–	–	–
Fitchburg,	33,327	5	2	1	–	1	–	–	–
Taunton,	30,967	17	1	3	2	2	–	–	–
Everett,	30,173	4	2	–	–	–	–	–	–
Quincy,	28,995	2	–	1	–	1	–	–	–
Waltham,	26,881	3	–	–	1	–	–	–	–
Gloucester,	26,011	2	2	–	–	–	–	–	–
Pittsfield,	25,704	7	–	–	–	–	–	–	–
Brookline,	24,207	4	–	2	–	1	1	–	–
North Adams,	22,150	3	0	–	–	–	–	–	–
Chicopee,	20,402	6	4	2	1	1	–	–	–
Northampton,	20,175	9	2	2	–	2	–	–	–
Medford,	19,988	3	1	1	–	–	–	1	–
Beverly,	15,506	11	3	1	2	–	1	–	–
Hyde Park,	14,784	2	–	–	–	–	–	–	–
Newburyport,	14,715	2	1	–	–	–	–	–	–
Leominster,	14,712	5	1	–	–	–	–	–	–
Melrose,	14,578	3	0	–	–	–	–	–	–
Woburn,	14,432	5	2	1	–	1	–	–	–
Marlborough,	14,168	0	–	–	–	–	–	–	–
Westfield,	13,887	5	1	–	1	–	–	–	–
Peabody,	13,438	–	–	–	–	–	–	–	–
Revere,	13,168	3	2	–	1	–	–	–	–
Clinton,	13,105	4	2	–	–	–	–	–	–
Attleborough,	12,995	7	4	2	2	–	–	1	–
Adams,	12,775	–	–	–	–	–	–	–	–
Gardner,	12,267	2	–	–	–	–	–	–	–
Milford,	12,256	1	1	–	–	–	–	–	–
Weymouth,	11,638	5	1	2	2	2	–	–	–
Framingham,	11,598	3	–	–	–	–	–	–	–
Watertown,	11,597	2	–	–	–	–	–	–	–
Plymouth,	11,452	–	–	–	–	–	–	–	–
Southbridge,	11,206	4	2	1	1	–	–	–	–
Wakefield,	10,476	3	–	2	–	2	–	–	–
Webster,	10,280	–	–	–	–	–	–	–	–

Recapitulation.

Total of reporting towns,	2,243,600	627	177	105	79	56	10	6	1

WEEK ENDING JUNE 23, 1906.

CITIES AND TOWNS.	Population. Estimated for 1906.	Reported Deaths in Each.	Deaths under Five Years.	DEATHS FROM— Principal Infectious Diseases.	Acute Lung Diseases.	Phthisis.	Diphtheria.	Typhoid Fever.	Measles.
Boston,	602,528	158	36	42	13	28	2	2	1
Worcester,	130,171	45	15	8	3	6	–	–	–
Fall River,	105,943	35	16	9	1	2	–	–	–
Cambridge,	98,583	23	10	3	2	1	–	–	–
Lowell,	94,889	30	11	6	7	5	–	–	–
Lynn,	78,871	17	3	–	2	–	–	–	–
New Bedford,	77,006	18	7	5	1	1	–	–	–
Springfield,	76,255	18	4	2	1	1	–	–	–
Lawrence,	71,653	18	4	4	1	3	–	–	–
Somerville,	70,908	13	3	3	2	–	–	1	–
Holyoke,	50,824	17	8	6	–	1	1	–	–
Brockton,	49,511	8	1	2	–	1	–	–	–
Malden,	38,978	8	–	1	–	1	–	–	–
Salem,	37,970	9	4	2	1	2	–	–	–
Chelsea,	37,968	11	2	1	–	–	–	–	–
Haverhill,	37,962	6	–	3	1	2	1	–	–
Newton,	37,512	5	0	–	1	–	–	–	–
Fitchburg,	33,327	4	–	1	–	1	–	–	–
Taunton,	30,967	17	4	6	–	2	–	1	1
Everett,	30,173	8	1	1	–	1	–	–	–
Quincy,	28,995	6	1	2	–	2	–	–	–
Waltham,	26,881	11	3	1	–	1	–	–	–
Gloucester,	26,011	3	2	–	–	–	–	–	–
Pittsfield,	25,704	5	2	1	–	1	–	–	–
Brookline,	24,207	5	1	2	–	–	–	–	–
North Adams,	22,150	7	1	–	–	–	–	–	–
Chicopee,	20,402	2	1	–	1	–	–	–	–
Northampton,	20,175	6	0	–	–	–	–	–	–
Medford,	19,988	2	1	1	–	–	1	–	–
Beverly,	15,506	2	–	–	–	–	–	–	–
Hyde Park,	14,784	4	4	1	–	–	1	–	–
Newburyport,	14,715	5	–	1	–	–	–	–	–
Leominster,	14,712	1	–	–	1	–	–	–	–
Melrose,	14,578	4	0	–	–	–	–	–	–
Woburn,	14,432	3	1	1	–	–	–	–	–
Marlborough,	14,168	5	2	–	1	–	–	–	–
Westfield,	13,887	1	–	–	–	–	–	–	–
Peabody,	13,438	–	–	–	–	–	–	–	–
Revere,	13,168	2	1	–	–	–	–	–	–
Clinton,	13,105	1	0	–	–	–	–	–	–
Attleborough,	12,995	0	–	–	–	–	–	–	–
Adams,	12,775	1	1	–	–	–	–	–	–
Gardner,	12,267	–	–	–	–	–	–	–	–
Milford,	12,256	–	–	–	–	–	–	–	–
Weymouth,	11,638	–	–	–	–	–	–	–	–
Framingham,	11,598	2	–	1	1	1	–	–	–
Watertown,	11,597	1	–	–	–	–	–	–	–
Plymouth,	11,452	–	–	–	–	–	–	–	–
Southbridge,	11,206	1	–	1	–	1	–	–	–
Wakefield,	10,476	4	–	2	–	1	–	–	–
Webster,	10,280	–	–	–	–	–	–	–	–
Recapitulation.									
Total of reporting towns,	2,220,214	552	150	119	40	65	6	4	2

WEEK ENDING JUNE 30, 1906.

CITIES AND TOWNS.	Population Estimated for 1906.	Reported Deaths in Each.	Deaths under Five Years.	DEATHS FROM— Principal Infectious Diseases.	Acute Lung Diseases.	Phthisis.	Diphtheria.	Typhoid Fever.	Measles.
Boston,	602,528	173	38	31	10	18	1	1	–
Worcester,	130,171	28	4	4	2	4	–	–	–
Fall River,	105,943	42	17	20	4	4	–	–	–
Cambridge,	98,583	24	8	7	3	2	1	–	–
Lowell,	94,889	29	9	8	1	2	1	–	–
Lynn,	78,871	22	2	3	–	1	–	1	–
New Bedford,	77,006	23	8	3	2	1	–	1	–
Springfield,	76,255	23	6	4	–	2	2	–	–
Lawrence,	71,653	11	6	1	3	–	–	–	–
Somerville,	70,908	20	5	3	2	2	–	–	–
Holyoke,	50,824	13	6	3	3	1	–	–	–
Brockton,	49,511	11	–	1	–	1	–	–	–
Malden,	38,978	4	–	–	–	–	–	–	–
Salem,	37,970	12	5	–	2	–	–	–	–
Chelsea,	37,968	12	5	5	1	2	–	1	–
Haverhill,	37,962	8	1	1	1	1	–	–	–
Newton,	37,512	7	2	–	–	–	–	–	–
Fitchburg,	33,327	5	1	1	1	1	–	–	–
Taunton,	30,967	–	–	–	–	–	–	–	–
Everett,	30,173	4	1	1	–	1	–	–	–
Quincy,	28,995	7	2	–	1	–	–	–	–
Waltham,	26,881	10	2	2	1	2	–	–	–
Gloucester,	26,011	9	2	–	–	–	–	–	–
Pittsfield,	25,704	–	–	–	–	–	–	–	–
Brookline,	24,207	3	1	–	–		–	–	–
North Adams,	22,150	4	2	–	–	–	–	–	–
Chicopee,	20,402	7	5	1	2	–	–	–	–
Northampton,	20,175	5	1	–	–	–	–	–	–
Medford,	19,988	3	2	1	–	–	–	–	–
Beverly,	15,506	5	1	1	1	–	–	1	–
Hyde Park,	14,784	3	–	–	–	–	–	–	–
Newburyport,	14,715	1	–	–	–	–	–	–	–
Leominster,	14,712	–	–	–	–	–	–	–	–
Melrose,	14,578	5	0	–	–	–	–	–	–
Woburn,	14,432	5	2	2	–	–	–	–	–
Marlborough,	14,168	1	0	–	–	–	–	–	–
Westfield,	13,887	3	–	–	–	–	–	–	–
Peabody,	13,438	–	–	–	–	–	–	–	–
Revere,	13,168	6	–	1	–	1	–	–	–
Clinton,	13,105	3	1	1	–	1	–	–	–
Attleborough,	12,995	1	0	1	–	–	–	–	–
Adams,	12,775	4	1	2	–	2	–	–	–
Gardner,	12,267	–	–	–	–	–	–	–	–
Milford,	12,256	4	3	2	1	–	–	–	–
Weymouth,	11,638	2	0	1	–	1	–	–	–
Framingham,	11,598	2	–	–	1	–	–	–	–
Watertown,	11,597	0	–	–	–	–	–	–	–
Plymouth,	11,452	–	–	–	–	–	–	–	–
Southbridge,	11,206	5	–	3	–	2	–	–	–
Wakefield,	10,476	3	–	–	–	1	1	–	–
Webster,	10,280	–	–	–	–		–	–	–

Recapitulation.

Total of reporting towns,	2,072,725	572	149	114	42	53	6	5	–

WEEKLY RETURNS OF DEATHS FROM CERTAIN INFECTIOUS DISEASES.

DEATHS FROM INFECTIOUS DISEASES NOT SPECIFICALLY MENTIONED IN ABOVE TABLES DURING THE WEEKS OF JUNE 2, 9, 16, 23 AND 30, 1906.

DISEASE.	Place.	WEEK ENDING—				
		June 2.	June 9.	June 16.	June 23.	June 30.
Cerebro-spinal meningitis,	Boston,	1	3	2	2	–
	Worcester,	1	1	2	2	–
	New Bedford,	1	1	–	–	–
	Taunton,	1	–	1	1	–
	Lowell,	–	2	2	–	1
	Lawrence,	–	2	–	–	–
	Somerville,	–	1	–	–	–
	Southbridge,	–	1	–	–	–
	Holyoke,	–	–	–	1	–
	Woburn,	–	–	–	1	–
	Milford,		–	–	–	2
	Attleborough,	–	–	–	–	1
Scarlet fever,	Boston,	1	1	1	2	2
	Worcester,	1	–	–	–	–
	Springfield,	1	–	–	–	–
	Haverhill,	1	–	–	–	–
	Fall River,	–	2	–	–	–
	Cambridge,	–	1	–	–	–
	Holyoke,	–	2	–	–	–
	Lowell,	–	–	1	–	–
	Newburyport,	–	–	–	1	–
	Wakefield,	–	–	–	1	–
Erysipelas,	Boston,	1	1	–	–	–
	Chelsea,	–	–	–	–	1
	Lawrence,	–	1	1	–	–
	Lynn,	–	2	–	–	–
Whooping-cough,	Boston,	2	4	3	2	2
	Lawrence,	1	–	–	–	–
	Somerville,	1	1	–	–	–
	Holyoke,	1	–	–	1	–
	Brockton,	2	–	–	1	–
	Salem,	1	–	–	–	–
	Taunton,	1	–	–	1	–
	Brookline,	1	–	–	2	–
	Cambridge,	–	1	3	1	2
	Chelsea,	–	1	1	1	–
	Fall River,	–	–	1	–	–
	New Bedford,	–	–	–	1	–
	Lynn,	–	–	–	–	1

WEEKLY RETURNS OF CASES OF INFECTIOUS DISEASES.

CASES OF INFECTIOUS DISEASES REPORTED DURING THE WEEKS OF JUNE 2, 9, 16, 23 AND 30, 1906.

[Under the provisions of section 52 of chapter 75 of the Revised Laws.]

	WEEK ENDING —				
	June 2.	June 9.	June 16.	June 23.	June 30.
Diphtheria,	120	116	95	111	116
Measles,	254	253	184	84	111
Scarlet fever,	122	107	89	112	82
Typhoid fever,	23	34	38	22	25
Tuberculosis,	52	65	46	47	51
Cerebro-spinal meningitis,	5	8	6	3	4
Smallpox,	–	–	4	4	12

MONTHLY REPORT ON INSPECTION OF FOOD AND DRUGS.

The following summary presents the results of the examinations of food and drugs made by the State Board of Health during the month of June, 1906: —

ARTICLES EXAMINED.	Number found to be of Good Quality.	Number adulterated or varying from the Legal Standard.	Total.	ARTICLES EXAMINED.	Number found to be of Good Quality.	Number adulterated or varying from the Legal Standard.	Total.
Milk,	222	26	248	Ham,	1	–	1
Butter,	1	–	1	Canned meats,	121	23	144
Cream,	9	–	9	Flavoring extracts,	7	1	8
Spices,	9	–	9	Grape juice,	5	–	5
Cream of tartar,	4	–	4	Clams and oysters,	2	–	2
Table sauces,	2	1	3	Honey,	2	–	2
Cider,	1	–	1	Ale,	3	–	3
Canned vegetables,	3	–	3	Porter,	4	–	4
Canned soups,	5	4	9	Molasses,	1	–	1
Cocoa,	3	–	3	Vinegar,	12	2	14
Coffee,	1	–	1	Non-alcoholic drinks,	10	–	10
Hamburg steak,	4	1	5	Jellies and jams,	2	2	4
Sausages,	16	4	20	Miscellaneous,	3	–	3
Head cheese,	2	1	3	Drugs,	40	12	52
Meat jelly,	1	–	1				
Mince meat,	1	–	1				
Tripe,	3	5	8				
Lambs' tongues,	3	–	3	Total,	503	82	585

The samples of drugs found to be adulterated were: cera flava, extractum zingiberis fluidum, opii pulvis, spiritus camphoræ and tinctura iodi.

The cities and towns in which samples were collected were: Boston, Cambridge, Dedham, Hyde Park, Beverly, Milford, Waltham, Fitchburg, Plymouth, Peabody, Greenfield, North Adams, Adams, Middleton, Newburyport, Salem, Marlborough, Chelsea, Lawrence, Watertown, Gloucester, Medford, Malden, Lowell, Andover, Taunton, New Bedford, Arlington, Winthrop, Springfield and Swampscott.

PROSECUTIONS FOR VIOLATIONS OF THE LAW RELATING TO FOOD AND DRUGS.

Thirty-seven convictions were secured during the month of June, 1906, for selling adulterated food and drugs, as follows: —

No.	Name of Defendant.	Place.	Character of Article sold.
1	Horatio Peasley,	Boston,	Vinegar.
2	John T. Twombly,	Boston,	Vinegar.
3	Patrick Keyes,	Boston,	Tomato toner.
4	Oliver C. Adams,	Boston,	Tomato catsup.
5	John Jeffers,	East Boston,	Lemon extract.
6	Thos. W. McKee,	Boston,	Raspberry jam.
7	Thos. W. McKee,	Boston,	Strawberry jam.
8	William Y. Wadleigh,	Boston,	Raspberry jam.
9	Chas. H. Dodge,	Beverly,	Milk.
10	M. M. Crafts,	Beverly,	Milk.
11	M. M. Crafts,	Beverly,	Milk.
12	Wm. A. Smith,	Cambridge,	Mince meat.
13	Wm. Farrell,	Cambridge,	Vinegar.
14	Marshall P. Newman,	Cambridge,	Strawberry jam.
15	Marshall P. Newman,	Cambridge,	Raspberry jam.
16	Marshall P. Newman,	Cambridge,	Strawberry jam.
17	Bartholmer Marchetti,	Hyde Park,	Maple sugar.
18	Chas. H. Schoenland,	Lawrence,	Frankforts.
19	John Curtin,	Lawrence,	Hamburg steak.
20	Henry C. Schoenland,	Lawrence,	Frankforts.
21	Vital Lessard,	Lawrence,	Frankforts.
22	William F. Trauskke,	Lawrence,	Milk.
23	John R. Harris,	Lawrence,	Hamburg steak.
24	C. Henry Schoenland,	Lawrence,	Hog's head cheese.
25	C. Henry Schoenland,	Lawrence,	Frankforts.
26	Henry C. Schoenland,	Lawrence,	Hog's head cheese.
27	Manuel S. Silva,	Methuen,	Milk.
28	Edward P. Gilley,	Medfield,	Milk.
29	Edward P. Gilley,	Medfield,	Milk.
30	Walter I. Coffin,	Milford,	Milk.
31	William McNiff,	Marlborough,	Milk.
32	Frank F. Esté,	Marlborough,	Cream.
33	John E. Janes,	Waltham,	Hamburg steak.
34	Chas. L. Hatch,	Winthrop,	Mince meat.
35	Joseph H. Geddis,	No. Adams,	Milk.
36	William T. Howland,	Acushnet,	Milk.
37	Thomas L. Andrews,	New Bedford,	Milk.

Amount of fines, $767.

Number of Sample.	Character of Sample.	Brand, or Name of Manufacturer, Wholesaler or Producer.	Results of Analyses.
A 160,	"Rex" Vienna sausage,	Cudahy Canning Company, Chicago,	Preserved with a compound of boron.
1245	"Rex" German lunch sausage.	Cudahy Canning Company, Chicago,	Preserved with a compound of boron.
1395	Canned corned beef,	Oriental Packing Company, Abattoir No. 17,	Preserved with a compound of boron.
A. B.,	Canned ham,	Oriental Packing Company, Abattoir No. 17,	Preserved with a compound of boron.
A. 2,	Canned hamroll,	Nelson Morris & Company, Chicago,	Preserved with a compound of boron.
1397	"Palace" lunch tongue,	Inter Ocean Packing Company, Abattoir No. 17,	Preserved with a compound of boron.
690 M,	"Blue Ribbon" chipped beef.	German-American Provision Company, Chicago,	Preserved with a compound of boron.
4713 N,	"Veribest" ham loaf,	Armour & Co., Chicago,	Preserved with a compound of boron.
4725 N,	"Veribest" sliced smoked beef.	Armour & Co., Chicago,	Preserved with a compound of boron.
4717 N,	"Coin Special" chicken loaf.	C. H. Hammond Company, Chicago,	Preserved with a compound of boron.
4831 N,	Chipped dried beef,	Nelson Morris & Co., Chicago,	Preserved with a compound of boron.
1418	"Vinola" grape juice,	Fredonia Preserving Company, Fredonia, N. Y.,	Preserved with benzoic acid.
1219	Tomato ketchup,	The Great Atlantic and Pacific Tea Company,	Preserved with benzoic acid.
1297	Tomato soup,	Van Camp Packing Company, Indianapolis,	Preserved with benzoic acid.
1298	Tomato soup,	Libby, McNeill & Libby, Chicago,	Preserved with benzoic acid.
1380	"Seal Brand" tomato and okra soup.	P. J. Ritter Conserve Company, Philadelphia,	Preserved with benzoic acid.
884 M,	Milk,	T. L. Andrews, New Bedford,	Total solids, 10.05 per cent.; contains added water.
4559 N,	Milk,	Fred P. Warren, Ipswich,	Total solids, 10.15 per cent.; contains added water.
1271	Milk,	Albert Davenport, Readville,	Total solids, 9.90 per cent.; contains added water.
4833 N,	Milk,	A. J. Green, North Adams,	Total solids, 12.12 per cent.; preserved with formaldehyde.
4835 N,	Milk,		Total solids, 13.77 per cent.; preserved with formaldehyde
4563 N,	Milk.	M. M. Crafts, Beverly,	Total solids, 11.63 per cent.; preserved with formaldehyde.
1311	Milk,	Charles H. Dodge, Beverly,	Total solids, 12.50 per cent.; preserved with formaldehyde.
1312	Milk,		Total solids, 12.54 per cent.; preserved with formaldehyde.

LIST OF ADULTERATED FOOD, ETC. — *Concluded.*

Number of Sample.	Character of Sample.	Brand, or Name of Manufacturer, Wholesaler or Producer.	Results of Analyses.
1356	Potted tongue,	Libby, McNeill & Libby, Chicago,	Contained corn meal.
1383	Potted tongue,	Van Camp Canning Company, Indianapolis, Ind.,	Contained corn meal.
4735 N,	Potted chicken, "Veribest."	Armour & Co., Chicago,	Contained corn meal.
X,	Devilled chicken,	Libby, McNeill & Libby, Chicago,	Contained corn meal.
A. A.	Devilled turkey,	Libby, McNeill & Libby, Chicago,	Contained corn meal.
4703 N,	Devilled ham, "Veribest."	Armour & Co., Chicago,	Contained much corn meal.
704 M,	Devilled ham, "Rex," "The taste tells."	Cudahy Canning Company,	Contained kidney and corn meal.
4041 N,	Devilled ham,	Jacob Dold Packing Company, Buffalo,	Contained corn meal.
XX,	Devilled ham, "Lawson Pink."	Roger I. Sherman Company, Boston,	Contained a boron preservative.
B,	Devilled ham, "Eureka."	Ottumwa Packing Company, Abattoir No. 17, U. S. A.,	Contained a boron preservative and corn meal.
824 M,	Devilled ham,	Potter & Wrightington, Boston,	Contained a boron preservative.
1398	Devilled ham, "Advance Brand."	Schwarzschild & Sulzberger, Chicago,	Contained a boron preservative.
4701 N,	Potted ox tongue, "Veribest."	Armour & Co., Chicago.,	Contained much corn meal and salivary gland.
1412	Potted ham.	Columbian Conserve Company, Indianapolis,	Contained corn meal and a boron preservative.
686 M,	Potted ham,	Jacob Dold Packing Company, Buffalo,	Contained corn meal.
1381	Boned chicken,	Vamp Camp Packing Company, Indianapolis, Ind.,	Contained a boron preservative.

INSPECTION OF DAIRIES.

During the month of June, 1906, 234 dairies were examined in the following places: —

Place.	Number examined.	Number found to present no Objectionable Features.	Per Cent.	Number to which Letters were sent.	Per Cent.
Chelsea,	21	2	9.52	19	90.48
Everett,	15	8	53.33	7	46.67
Lynn,	22	11	50.00	11	50.00
Malden,	25	5	20.00	20	80.00
Medford,	25	19	76.00	6	24.00
Melrose,	14	8	57.14	6	42.86
North Reading,	19	13	58.42	6	41.58
Reading,	21	15	71.43	6	28.57
Revere,	1	–	–	1	–
Saugus,	36	4	11.11	32	88.89
Swampscott,	12	3	25.00	9	75.00
Wakefield,	23	10	43.48	13	56.52

Total number of dairies examined,	243
Number found free from objectionable conditions,	98
Number to which letters were sent,	136
Total number of conditions to which attention was called,	719
Percentage of dairies which passed inspection,	41.88

The names of the owners of the dairies found to be worthy of commendation follow.

Chelsea.

Loretti, James. Stewart, Charles.

Everett.

Barnard, Robert M.
Cannell, J. H.
Coleman Bros.
Gage, Henry.
Leavitt, F. H.
Leonard, Cyrus.
Page, W. R.
Smith, Owen.

Lynn.

Bates, Edward.
Bessom, J. Fred.
Currier, James.
Dearborn, S. W.
Graham, Charles.
Harmon, Eli.
Heath, Henry.
Kiley, James H.
McElroy, Thomas.
Prime, John H.
Waitt, L. Alden.

Malden.

Haley, Nellie J.
Maher, Frank T.
Mahoney, John J.
Malden Poor Farm.
Quesnel, Henry F.

Medford.

Atherton, Caleb.
Byrnes, Patrick.
Gaffey, J. A.
Hutchinson, F. E.
Jones, M. D.
Morrissey, Morris.
Morse, Mrs. G. T.
Neilson, John P.
Peterson, Nelson.
Poole, Mrs. A.
Putnam, C. A.
Smiley, George F.
Trainor, E. D.
Vercellone, B.
Weeks, B. W.
Wellington, Arthur W.
Wellington, J. E.
Whittier, W. B.
Wright, W. C.

Melrose.

Burnett, A. J.
Casey, J.
Ford, Joshua.
Higgins, Geo. W.
Higgins, Thomas.
McDonald, Angus.
Melrose City Farm.
Spratt, Mrs. W. H.

North Reading.

Bazani, W.
Brown, Ellis A.
Daley, J. L.
Emmett, A. G.
Foley, T. L.
Forsythe, C. R.
Knapp, L. E.
Lindsley, James.
Olmstead, A. S.
Stratton, Charles.
Turner, W. P.
Upton, Henry A.
Upton, W. F.

Reading.

Ames, J. L.
Elm Stock Farm (H. W. Pattee, Manager).
Gleason, Rodney.
Harrison, Charles.
Lewis, L. B.
Mooney, S. L.
Muse, John.
Nesmith, C. I.
Nichols, J. Brooks.
Parker, Milton D.
Parker, W. S.
Rogers, Fred G.
Trask, C. W. C.
Wakefield, Charles.
Wakefield, George.

Saugus.

Bennett, Frank P.
Conant, Elbridge.
Stocker, F. P. (East).
Penney, W.

Swampscott.

Curtis, C. P.
Pierce, Samuel.
Rowe, Allen.

Wakefield.

Carter, Margaret M.
Castle, William.
Ellsworth, Ezra.
Luillo, G.
Mansfield, Joel.
Munroe, Mrs. J. L.
Parker, Allen.
Traverse, Mrs. E. R.
Wakefield Town Farm.
White, E. W.

THE SLAUGHTERHOUSES, PACKING ESTABLISHMENTS AND SAUSAGE FACTORIES OF MASSACHUSETTS.

The public mind has lately been much disturbed by the revelations concerning conditions which obtain in certain of the packinghouses of the west, and questions have repeatedly been asked concerning the condition of the establishments within this Commonwealth. All of the large establishments and a number of small slaughterhouses, the latter chiefly in the country districts, have been examined. It will be seen by the report submitted below that the larger plants and a number of the small ones are beyond criticism. The great majority, however, of the small slaughterhouses examined in the rural districts are kept in anything but a sanitary condition. In the report which follows, the names of the owners of the improperly conducted plants are withheld, for obvious reasons.

Slaughtering and Packing Houses.

North Packing and Provision Company, Somerville. — Pork Packing.

This is a large establishment, with a number of separate departments, described below.

Hog House. — This has an area of 5,921 square feet and is eight stories high. Each floor is laid with bricks and is divided into pens about 40 by 50 feet in area.

The hogs are driven up inclines from floor to floor as soon as they arrive at the establishment. If they are not to be killed at once, they are given a feed of corn and are watered; but forty-eight hours is the longest interval between arrival and slaughter.

The place is washed down every day with a hose. The floors drain into the sewer. The condition is most satisfactory.

Killing Room. — This has an area of nearly 12,000 square feet, and is fairly lighted and properly ventilated. From the killing pit, the hogs are dropped through a chute into a vat of hot water. When the carcasses have been scraped and dressed, they are hung up to cool. As the slaughtered animals pass along, they are examined by two government inspectors, stationed about 75 feet apart. One looks and feels for glands, etc., in the neck; the other looks at the viscera. Condemned carcasses are split with an axe and are sent to the rendering tanks.

As the animals are dressed, the offal is sent by chutes to the floor below.

The floor of the killing room is constantly in process of cleaning, and is scrubbed thoroughly every night.

Hog Coolers. — The hogs are chilled in two rooms, each of about 10,000 square feet area, divided into compartments. The carcasses remain here about forty-eight hours. The floors are covered with sawdust and are cleaned frequently. As these rooms are kept at a low temperature, ventilation is not attempted, nor is it needed.

Cutting and Trimming Room. — This department has a total area of about 10,000 square feet. Here the carcasses are cut on benches, each workman having his own part to perform. The floors and benches are scrubbed and scraped daily. Since warm air would tend to promote spoiling, direct ventilation is not employed in warm weather.

Sausage Manufacturing. — This department covers almost 19,000 square feet. The lighting and ventilation are excellent. The materials used are pork trimmings and "barrel beef," which is bought outside. The meats are cut into small pieces and fed into grinders, from which the product falls into wooden tubs. After thorough mixing by machinery, it goes to the stuffing machine, in which it is forced into casings. The sausages known as frankfurters and bolognas are next boiled and smoked, and finally are washed and cooled.

All machinery is cleaned thoroughly after use, and the floors and tables are scrubbed daily. A man leaving the room is not permitted to return to his work until he has washed at the basin in the corner of the room, and the foremen are held accountable for infractions of this rule.

Preparation of Sausage Casings. — In a room of about 3,750 square feet floor space, well lighted and ventilated, 20 men are employed preparing intestines for sausage casings. The intestines are washed and passed through a machine which presses out all contents, and so works that practically nothing but the muscular coating is left. After being tested for perforations and washed, the casings are packed in dry salt.

The room in which this work is carried on has a wooden floor, which, though wet, is kept in properly clean condition. Owing to the nature of the material, there is some unavoidable odor.

Curing Cellars. — In 3 cellars having a combined area of nearly 56,000 square feet, 30 men are engaged in curing hams and bacon. These are treated in large vats of concrete built up from the floor, each of which has a removable wooden floor laid in sections, which can be taken up and cleaned from time to time.

The temperature of the cellars is maintained at about 35° F., and the air is saturated with moisture. These conditions are said to be necessary in the curing process.

Soaking and Washing Hams. — In an artificially (poorly) lighted, well-ventilated room of 4,000 square feet, 40 persons are engaged in washing and scrubbing hams after they have been taken from the pickle and soaked

in tanks of water. Here, also, boxes, crates and barrels are washed and scrubbed. The floor is of cement, covered with boards, and is very wet.

Offal and Rendering Department. — This department occupies four floors, with a total area of more than 47,000 square feet. The light is fair; the ventilation is mechanical and adequate.

The offal comes through galvanized iron tubes from the killing rooms. The tongues and other useful organs are trimmed and put aside. The intestines are stripped from the mesentery, and some of them, after being split and washed, are sent to the rendering tanks, together with other parts which yield fat. The tanks contain water which is heated until all the fat from the meat, scraps, etc., rises to the top, from which it is drawn off through a pipe. The tank residue is removed and pressed, and then disposed of for making fertilizer. The bones, after removal from the tanks, are dried and used in various ways.

The iron chutes are scoured with washing soda and hot water every night. The floor and tables are washed and scraped, and the whole place is kept in good order. There is practical freedom from flies.

Beef Salting. — In the basement of the cold-storage building, in a room of nearly 18,000 square feet of floor space, rather poorly lighted and inadequately ventilated, 7 persons are engaged in salting "plates" and briskets obtained from the large beef concerns in Boston. These parts, for which in the fresh state there is small demand at retail, are trimmed, cut into pieces of suitable size, and placed in barrels of brine, to which a small amount of saltpeter is added.

The floor is of wood over cement, and is clean. The room is cold and damp.

Preparation of Pigs' Feet. — Pigs' feet are cleaned, scraped and pickled by 12 men, whose work is carried on in a properly ventilated and adequately lighted room of about 7,000 square feet of floor space.

Night Work. — The whole plant is cleaned every night by a force of 60 to 70 men, who start at the killing room, which already has been cleaned and washed by the day men before leaving at night. All machinery, tables and floors are scrubbed with hot water, soap powder and scrubbing brushes. The scalding vat is cleaned thoroughly, as is the entire department in all particulars. Next the cutting and trimming rooms, the rendering plant and all other departments are attacked, and the whole establishment is finished by six o'clock in the morning.

The employees number about 1,100 and include representatives of many nationalities. All who were seen appeared to be in fair or good health.

About 90 per cent. eat their noonday meal at home; the others eat about the buildings or in a lunch room that is provided.

Very little spitting was observed anywhere about the plant.

J. P. Squire Company, East Cambridge. — Pork Packing.

This establishment is housed in a number of buildings of brick or wood, in fair condition and fairly well ventilated and lighted. The employees number about 800, of various nationalities, all apparently in good health. Very little spitting was observed. More than half go home to dinner; the rest eat in a restaurant provided by the company, or in the yard or work-rooms. The restaurant is clean and the food is of good quality and served at low prices. Those who prefer to bring their own food may eat it in the restaurant if they so desire.

While adequate provision is made for comfortable eating, the accommodations for hanging street clothes and for washing are somewhat meagre.

The establishment is divided into a number of departments, as follows: —

Hog House. — This building covers more than 25,000 square feet and contains three stories, each of which is divided into pens, in which are troughs of water. The light is good, the ventilation free, the sides being open. After each lot of swine is disposed of, the floors are thoroughly cleaned.

No slaughtering is done at this plant. The hogs are driven over a bridge to the killing rooms of the North Packing and Provision Company and are returned over another bridge to the cooling rooms, which occupy three floors of a building having an area of 64,000 square feet (400 by 160 feet). These rooms are lighted by electricity and are kept at a low temperature. The floors are scraped whenever necessary for the removal of the slight amount of blood which drips from the carcasses.

Cutting Room. — The cutting operations are performed by about 75 men on a floor space of about 30,000 square feet. The various parts are dropped into barrels or trucks or go by chutes to others below. No spitting was noted.

Curing Cellars. — Each of the curing cellars (four or five in number) covers about 43,000 square feet. Here the pork is piled in stacks 20 or more feet square, and cured with salt; and the hams and bacon are cured in tierces filled with a pickling solution of sugar, salt and saltpeter. These two processes require from thirty to seventy days.

The cellars are kept at a temperature of about 50° F. The floors are necessarily wet, but they are clean.

Soaking and Washing Hams, etc. — Before going to the smokehouse, the hams and bacon are sent to a large basement, where they are soaked in tanks of water and then washed with hot water and brushed. The floor is of cement, covered with wood. The light is poor.

Sausage Making. — The trimmings from the cutting room and "barrel beef" (government inspected) brought from elsewhere are mixed on tables, cut up by machinery, and mixed with salt, saltpeter and spices. The mixture is stuffed into casings, and the sausages are linked, boiled and sent

to the smokehouse. The room in which this work is done is fairly well lighted, naturally ventilated, and heated by steam. It covers 10,000 square feet. The floors, machines and all utensils are cleaned with hot water and brushes every day. A man leaving the room for any purpose whatever is obliged to wash his hands before resuming work.

Preparing Pigs' Feet. — In a room 25 by 30 feet, 10 men and boys are employed scalding, scraping and treating pigs' feet. The nature of the work is such that the floors look untidy, but they are frequently cleaned and scraped.

Rendering Room. — In this department, fat for lard is rendered in separate steam tanks, and trimmings and offal are tried out for grease in another set. The several products are drawn off from above, and the tank liquor and residue are discharged to floors below. The liquor is concentrated and ammonia stock is recovered. The tankage is pressed dry, then further dried by steam, and the product is disposed of as fertilizer. The general conditions in this department are good, and the tanks and floors are kept in a clean condition.

Box Making. — The box factory occupies three floors of a building covering 15,000 square feet. The light is good and the ventilation excellent. Nearly all of the wood-working machinery is guarded, and practically every dust-producing machine is provided with zinc hoods and suction draft for the removal of dust and shavings. A dovetailing machine is not so provided, but to do so would be difficult on account of its construction and manner of working.

Brighton Abattoir, Boston. — Slaughtering and Rendering.

This establishment contains a number of slaughtering and other departments, all owned by the corporation and let subject to its regulations. An inspector of the board of health of Boston is on duty all the time and has absolute authority so far as its sanitation is concerned. He inspects and passes upon each carcass before it can be removed. The whole plant is in good order; it is properly lighted, drained and ventilated in every part.

The different slaughtering places vary in size, but are of practically the same construction. All have wooden floors that drain to a trough leading to the cellar. The blood is caught in this trough during slaughtering and is converted afterwards into fertilizer. The cellars have cement floors, sloping to points provided with strainers. They are flushed every night with a hose. All floors are scrubbed daily.

The offal is sent by chutes to appropriate places beneath the killing rooms, and is taken by a company which maintains a plant on the premises.

A number of those who slaughter here have cold-storage rooms operated from a central plant.

In addition to slaughtering and the treatment of the ordinary by-products, rendering and the manufacture of oleo oil are carried on.

Oleo Oil Manufacture. — A basement 75 by 35 feet is used for sorting and trimming fat. The light, ventilation and drainage of the concrete floor are good. The fat is washed by cold spray and sent upstairs on an endless chain to the oleomargarine house, where it is ground, placed in kettles and melted. Next it is clarified and allowed to stand until the stearin separates, then is pressed through canvas and barrelled.

Rendering. — The offal from the slaughtering establishments and bones and fat from the markets are brought together in a basement, 170 by 60 feet, and sorted. Dead animals from outside are brought here also. The materials are taken to appropriate tanks and heated until the fat separates. This is drawn off and is sold, chiefly to the manufacturers of soap. The tank residue is subjected to pressure and disposed of as fertilizer. Sometimes the meat scraps are converted into poultry feed. The bones are cleaned and dried.

This department is clean and properly ventilated. The floors are swept when soiled, but are not washed except when all the tanks on one side are empty. All odors and gases are conveyed from the tanks by ventilation pipes to the furnaces, where they pass through the fire and are destroyed.

The men employed about the abattoir are of all ages from twenty to sixty. All appear to be healthy. Very little spitting was observed. Many of the men eat their dinners in the workrooms or on the grounds.

New England Dressed Meat and Wool Company, Somerville. — Slaughtering.

This is a slaughtering and rendering establishment, which includes a number of departments. It is clean and has good light and ventilation. A new system of toilet rooms has been planned and will soon be installed. In this, the exit from the water-closets is a wash-room provided with basins and towels, which visitors to the water-closets will be obliged to make use of before returning to work. Such is the rule at present, but the arrangements are not so convenient as those planned. The departments of this establishment are described below.

The employees number about 250 on an average (350 when the plant is running to the limit of its capacity). They are of several nationalities and all appear healthy. Very little spitting was observed in some departments, and none in others.

Killing Room. — Area, 8,840 square feet. Light and ventilation good. Occupants, 50 to 60.

The sheep are slaughtered in one part of the room, the cattle in another. After slaughter the carcasses are hung and the skinning and cleaning are completed. The meat does not touch the floor at all. The entrails are sent by chutes to the basement, each part by a separate chute. The blood

runs to a channel in the floor and thence to the cellar. The floor is thoroughly scrubbed each day when the work of slaughtering is finished.

The carcasses are hung in a cooling room for about an hour before going to the large refrigerators. The floor of the cooling room is scrubbed daily. The refrigerators are given fresh sawdust daily and are scalded every three or four weeks.

Offal and Hide Cellar. — The offal is handled by 20 men, and the hides by 30, in a cellar having an area of 36,400 square feet. The light is rather poor and is chiefly electric. The floor is of brick and cement, and slopes for drainage to several strainers; and after the day's work is done, it is washed down with a hose.

Rendering House. — The operation of rendering is carried on in a building of five stories, each with 3,744 square feet of floor space. The lighting is good in every part. The scraps, fat, bones, etc., are treated in rendering tanks in the top story. The fat is drawn off into barrels and the residue is pressed and converted into feed for poultry, or subjected to more heat and pressure and converted into fertilizer. This building is clean in every part.

Sausage-casing Room. — The intestines are cleaned and scraped in a room 40 by 35 feet, and after being tested for perforations are salted. Condition, clean.

Oleo Oil Making. — The choicest fat after trimming and sorting is washed in several changes of water, then is ground and transferred to large steam-jacketted kettles, in which it is heated with constant stirring. It is then piped to kettles on the floor below, where it is clarified. Then it passes to another lower floor, where it is drawn into tanks and allowed to stand until the stearin separates, when it is pressed through cloths, for the removal of the stearin, and barrelled. The entire process is conducted with great regard for cleanliness. The kettles, tubs, tanks, etc., are thoroughly scalded and scrubbed after each time used.

These several operations are conducted in rooms of 2,700 square feet of floor space in three stories. Each floor has drainage troughs and is clean.

Skin Cleaning. — In a room with 8,900 square feet of floor space, provided with good lighting and ventilation, the skins are scrubbed and cleaned and the wool is removed. They are then put through several processes of curing. The floor is wet, but properly drained.

Sturtevant & Haley Beef Supply Company, Somerville. — Slaughtering and Rendering.

The building is of wood and four stories high. The slaughtering is done on the ground floor, in a room about 50 feet square, by Jewish rabbis, and the product is "Kosher" or not, according to the findings on inspection. The animals killed are steers. The throat is cut and the head nearly

severed by a single transverse cut of a heavy knife. The government inspector examines each carcass, as does also the rabbi, who rejects all animals with pleural adhesions, lung cavities or perforated viscera. Nearly all of the viscera go to the rendering tanks for grease and fertilizer, though a few livers and hearts are sold. The killing room has good light and ventilation and is kept in a clean and neat condition.

The rendering tanks are in the upper story. The products are oleo oil, stearin, tallow and dried tankage.

The workmen have a healthy appearance and spit very little.

White, Pevey & Dexter Co., Worcester. — Pork Packing, etc.

The various departments of this establishment are distributed among several buildings, chiefly of brick. At present, the water-closets are in corners of workrooms and no facilities for washing are provided; but on each of the floors arrangements are being made for adequate closets, the exits from which will lead into washrooms provided with running water, basins, soap and towels. It is planned, also, to have cement floors and a ventilating shaft with an exhaust fan on the roof.

The *hog houses* are two wooden buildings, 40 by 80 feet and 30 by 60 feet, respectively, with two and three floors, respectively. Light and ventilation are good. The hogs are driven into the pens, where they are watered. The floors, now badly worn, but soon to be renewed, are washed down with a hose.

The *killing room*, 100 by 59 feet, has fairly good light and good ventilation and is heated by steam. The hogs enter from an inclined runway outside the building, and as soon as they are killed they are sent to a chute by which they drop into scalding water. The blood goes directly to a tank, in which it is reduced to fertilizer.

After the hogs are cleaned and opened, they are examined by a government inspector, then split and hung up to cool.

The room as a whole is fairly clean, and is washed with more or less thoroughness every day.

The *cutting room*, 35 by 60 feet, is fairly well lighted, but is neither heated nor ventilated, it being necessary to maintain a low temperature.

Soaking and Washing Room. — This room, 25 by 75 feet, is in a basement and has a cement floor, sloping to drains in the centre. The light is fair, ventilation good, and the heating is by steam. Here, hams from the curing cellars are soaked in tanks of water and washed off before being subjected to the smoking process. Here, also, all trucks, boxes, barrels, etc., are washed with hot water and brooms or brushes.

Sausage Making. — The manufacture of sausages is carried on by 12 workmen in a room having a floor space of 1,350 square feet, fairly light,

well ventilated and heated by steam. The machinery and utensils were found to be in clean condition. The wooden tables and trucks are to be replaced with galvanized iron. Many flies were about.

Preparation of Casings. — In a poorly lighted but fairly well-ventilated steam-heated room, having 1,125 square feet of floor space, 10 persons are engaged in scraping (by machinery), washing and salting intestines for sausage casings. The room is wet and unclean, and the air is unavoidably malodorous from the intestinal contents.

Rendering Department. — This occupies three floors, each of 1,250 square feet area. The light is poor and ventilation is not specially provided for. The rooms are heated by steam.

On the third floor are 6 steam tanks, 1 of which is used for converting blood to fertilizer, 2 for trying out offal, and 3 for lard. The grease is drawn down into settling tanks and coolers on the next floor. The tank liquor is drawn down into the basement floor, where it is evaporated to the consistency of thick glue, and later is added to the tank residue after the latter has been pressed and dried.

The employees are healthy looking and spit but little.

Springfield Provision Company, Brightwood. — Slaughtering and Pork Packing.

This establishment is situated on the bank of the Connecticut River, and has its own water supply and drainage system. The buildings are more than twenty years old and are not well arranged as to light, ventilation and facilities for cleaning. Alterations are in progress, which include the installation of several sets of closets and sinks. Hitherto, hot water, soap and towels have not been provided for the workmen. Excepting in the cold-storage rooms and smokehouse, the place is extensively infested with flies.

In the cold-storage rooms there is much condensation of moisture, and elsewhere an excessive amount of water is discharged on the floors, nearly all of which drain badly and in consequence are very wet.

About 225 workmen, chiefly Poles, some Irish and French, a few Italians and native-born, have a fair to good healthy appearance. Not much spitting was observed. Sand boxes are provided for those who have the habit.

The time allowed for the noonday meal is a half hour. Some eat outdoors in good weather, but ordinarily nearly all eat somewhere about the buildings. No place is provided for the purpose.

The establishment includes the following departments: —

Hog House. — This is a building, 225 by 60 feet, divided into pens, 40 by 45 feet, capable of holding 90 to 100 hogs each. The hogs are seldom kept more than twenty-four hours before slaughter. The pens are washed

down with a hose as soon as the hogs are sent to the killing room and then are in fairly clean condition. Light is fair and ventilation good.

Killing Room. — This is a large room, 70 by 80 feet, in the top of the building. It is well lighted and the ventilation is adequate. The hogs are driven up a long incline, and as they enter they are caught up by one leg and sent along a narrow passageway, where they are stuck in the neck. As they are carried along they bleed on the zinc-covered floor, from which the blood drains into a pipe. The carcasses are next dropped into scalding water, from which they are soon withdrawn, ready for the cleaners. After being scraped they pass along and are eviscerated. Each carcass is examined by two government inspectors, one of whom looks and feels for glands in the neck, and the other inspects the viscera, which are thrown upon a table before him. The carcasses condemned and tagged are sent to the grease tanks. The viscera are sorted out and thrown into trucks or sent below through zinc-lined chutes. The fat stripped from the intestines goes through a chute to the lard tanks.

After the day's slaughtering is completed, the place is washed down with a hose.

Most of the workmen in this room work barefooted.

Cold Room. — Before being chilled in this room, which is 108 by 160 feet, and is maintained at a temperature of 30° F. or lower, the hogs are allowed to cool in a light and airy room, the floor of which is covered with sawdust and frequently cleaned. The cold room is lighted by electricity, and necessarily is not ventilated. It is divided into five sections, which are filled in turn. The floor slopes to a galvanized iron gutter which carries away the water used for cleaning. The hogs remain here about twelve hours and then are sent to the cutting room.

Cutting and Salting Room. — This room, which has a floor space of 21,000 square feet and is occupied by about 125 workmen, is properly lighted, but because of the necessity of keeping a low temperature is not provided with means of ventilation; but it is occupied but a few hours at a time. Here the carcasses are cut up and distributed, and meat is stacked for dry-salting or placed in barrels for storage. The floor is wet, but is said to be cleaned every day or two. Sand boxes are provided, and no spitting on the floor was observed.

Trimming Room. — In this room, which is 108 by 65 feet, properly lighted and maintained at a temperature of about 35° F., 50 persons are engaged about three hours daily trimming small pieces of meat. The room is clean.

Preparation of Sausage Casings. — This work is carried on by 10 persons in a room with good light and ventilation, having a floor space of 1,200 square feet. The intestines are scraped, washed, tested for perforations

and packed in salt. The room is kept clean and is not more odorous than is to be expected, considering the nature of the material treated.

Soaking and Pickling Cellar. — Here, in a temperature of about 40° F., hams and bacon are soaked for from forty to seventy days in a pickling solution of salt, sugar and saltpeter. They are then taken out, soaked in water, washed with cold water and a stiff brush, and then carried to the boning rooms. The floor is of cement, with a board covering.

Boning and Trimming Rooms. — Here the bones are removed from the hams, which are then placed in tin holders, in which, before being taken to the smokehouse, they are boiled. This department includes several rooms, properly lighted and ventilated, each about 25 by 50 feet.

Sausage Making. — Five rooms are given up to the manufacture of sausages. They are all fairly well lighted and ventilated, and have floor spaces ranging from 800 to 2,250 square feet. They are heated by steam. In the cutting and mixing room, 40 by 50 feet, the meat from the trimming rooms is mixed with government-inspected-and-stamped "barrel-beef," salt, saltpeter and spices, and ground by machinery. No other preservative substances are employed. The casings are filled in a second room, 30 by 75 feet, and the sausages then pass to a third room, 30 by 40 feet, where they are boiled in a wooden tank. They are packed in another room, 20 by 40 feet, and then placed in cold storage. The greater part are smoked in the smokehouse. The floors of the sausage rooms do not look clean, but they are said to be washed daily with water.

Rendering Lard and Grease. — Eight tanks are in use; 5 for lard, 2 for grease and 1 for blood. They are on the third floor. Portions of three floors are in use. When the tank contents have been heated sufficiently long, the fat is drawn off at the upper level and the water and residue through the bottom. The lard and grease go at once to settling tanks below. The lard after appropriate treatment is pumped to the filling room, where it is run into pails. On the lower floor the tank water is drained away and the residue is pressed and dried for fertilizer.

Preparation of Pigs' Feet. — Six men in a properly ventilated and fairly well-lighted room, 30 by 45 feet, clean and shave scalded pigs' feet. The place naturally is wet and somewhat dirty, but otherwise is unobjectionable.

Washing Room. — All trucks, utensils, etc., are taken every night to a room, 30 by 60 feet, where they are washed with warm water and stiff brushes. The proper cleaning of wooden trucks and tubs is not a simple operation, but 5 or 6 men are engaged at this work every night.

Springfield Rendering Company, Brightwood. — Slaughtering and Rendering.

In this establishment, which occupies a brick and wooden building, two stories in height, situated on the bank of the Connecticut River, the chief business is rendering. The slaughtering is done by Jewish butchers, each killing his own animals, and the meat is "Kosher." The animals slaughtered are chiefly cows and calves, and they number about 50 per week. They are kept in a small, not clean yard, from which they are driven up a short incline to the killing room, the floor of which is double and slopes slightly to drain in the middle. This drain has two plugs, one of which closes the opening to the rendering tanks (for blood) and the other that of the outlet for wash water, which drains to the river.

The killing room is cleaned by the company when the day's slaughtering is completed. Since those who use the place kill at all hours of the day, it is difficult to keep it in a cleanly condition, and the place is infested by flies. The rabbi makes his inspection at the time of slaughter and a second inspection is made by the local inspector. The carcasses are carried away, not chilled, within a few hours, although a cold-storage plant is maintained on the premises.

The company makes oleo oil from suet and fat collected in the markets and sent in in ice. This material is trimmed and washed and put into steam kettles, after being finely minced by machinery. It is heated to 170° F. for several hours, and the liquid fat is drawn off into wooden tanks. After the stearin has separated, the material is pressed through cloth and the oil is conveyed to a storage tank, from which it is drawn into barrels for export. The stearin is used in this country for various purposes. The building in which this work is conducted is clean and neat throughout.

Another operation conducted here is that of bone grinding, in which process much fine and irritating dust is evolved. One man manages the machine, and has done so for three years without discomfort or injury.

The chief business is curing hides and rendering. The products are hides, bones and bone dust, stearin, oleo oil, fertilizer and ammonia stock.

Small Slaughterhouses.

Of 24 smaller establishments, the following four proved to be worthy of commendation: —

Bowman,	Arlington.
George E. May,	South Deerfield.
Trelligan,	North Cambridge.
Bleiler,	Watertown.

Bowman, Arlington. — Slaughtering.

The slaughterhouse has good light and ventilation, and is sweet and clean. It has a tight floor which slopes to one side, where a channel connects with the sewer. About 50 to 60 calves are slaughtered every week. The offal is removed at once and the entire place is cleaned every day after slaughter. The calves are dressed and cooled in the same room and then removed to a clean ice chest. No odor was observable.

George E. May, South Deerfield. — Slaughtering.

Wooden building, 25 by 50 feet, with a ventilated slate roof. About 300 hogs, 300 beef cattle and 500 calves are slaughtered in a year, in a room, 15 by 25 feet, with a tight wooden floor pitching to a drain in the centre, through which blood, etc., are conveyed to a receptacle outside. This floor is kept in a clean condition. The meats are hung in a cooling room, from which they pass to a large refrigerator.

Lard is tried out in a steam kettle; hams and bacon are cured in the cellar, which has a cement floor; and beef is corned in another room.

The whole establishment is clean and well kept, and is free from flies. No spitting was observed.

Trelligan, North Cambridge. — Slaughtering.

The slaughterhouse is a shed, 16 by 22 feet, in the rear of a barn. It is kept scrupulously clean and is quite free from odor. It has a tight wooden floor which slopes to a strainer in the centre. About 40 to 50 calves are killed per week. The offal is removed immediately and the meat is inspected by the Cambridge inspector before it can be sent out.

Bleiler, Watertown. — Slaughtering.

The slaughterhouse, 20 by 35 feet, is properly lighted and ventilated, has no odor, and is kept scrupulously neat and clean. The floor is wood over concrete, and slopes to a channel connected with the sewer. The animals killed here are calves and swine. The offal is taken at once to the abattoir at Brighton. The room in which the swine and calves' heads are scalded is neat and clean, as is also the ice chest which is used for storage.

The following reports of small establishments in various parts of the State speak for themselves: —

A.

This slaughterhouse covers about 500 square feet of ground and has a tight wooden floor without noticeable slope. The floor is about 18 inches above ground. At one end there is a door, through which blood and offal

are washed out into a pig pen. The ventilation is very poor. The walls and floor are very dirty, and the place is infested with flies. About 35 cows and 20 calves are killed each week.

B.

This slaughterhouse, which covers 330 square feet, is in a field on a farm. Three or 4 cattle, about 5 sheep and 3 calves are killed each week. The offal is thrown below to swine; the hides are sold. The place is cleaned but little; the floor is dirty and a bad odor is noticed. Many flies are present.

C.

From 6 to 12 lambs are killed each week during the late winter and spring months, in a small room in a barn. There is no drainage. The offal is carted away to be fed to swine or is buried. The place is exceedingly dirty, and the floor is covered to a depth of 2 inches with accumulated filth.

D.

This is a small building, covering 450 square feet. The light is good. The wooden floor slopes to a strainer connected with the sewer. While the floor is clean, the walls near the door are greasy and bloody for about 2 feet from the floor. A slight odor was perceptible, but the day was very hot. Little killing is done in summer. In winter the building is heated by a stove.

E.

This is an old slaughterhouse, in fair condition, where about 100 calves are killed every week. The killing room has a floor space of 600 square feet. The floor is of wood, sloping to the door, where the drainage is caught in an iron tub. The offal is removed every killing day and is fed to swine. The floor at time of visit had been scrubbed and was neat and clean, but the offal barrels were greasy and bloody. The room had recently been whitewashed and looked tidy and clean. Many flies were observed and there was some odor, but the weather was hot. The cutting board was not clean and the meat hooks were covered with blood and grease. The building is properly lighted and ventilated and is heated by means of a stove.

F.

The slaughtering is done in a room 25 by 30 feet, with a cement floor, which drains from the middle through a pipe into the river. Calves, lambs and poultry are killed. The place is dirty, untidy and infested with flies. In an old barn, a mile away, 3 or 4 cows are killed each week on a floor 12 by 16 feet. The place is very dirty everywhere, and apparently no attempt

is made to clean it. There is no water supply and what water is used is brought in in cans. The offal is dropped into the cellar, where it is consumed by swine.

G.

This is a shed, covering 450 square feet, where 6 to 10 calves are killed each week. In the autumn, a few cows and hogs also are killed. The offal is thrown to hogs in an adjoining pen. The water used to clean the floor is brought in in cans. The place is dirty and smells badly.

H.

In a part of a barn calves are slaughtered. The floor is not cleaned. The offal is thrown to hogs kept underneath. Horses are killed here occasionally for their hides.

I.

This is a shed covering an area of 360 square feet. This and the next following are used chiefly as a slaughterhouse for "Kosher" meat by residents of a nearby city. From 6 to 12 cattle are killed each week and occasionally a few calves. The floor is somewhat worn and has not been kept clean, although its condition compares favorably with that of others in this neighborhood. The offal is fed to swine.

J.

This is another small shed in which about a half-dozen animals are killed each week. The offal is thrown below to swine. The place is very dirty and apparently no attempt is made to clean it.

K.

This establishment is situated in the woods, about 2 miles from the town. The slaughterhouse covers about 800 square feet. The floor is very dirty, and apparently very little cleaning is attempted. A dozen or more lambs and a variable number of calves and cows are killed weekly during the busy season. The viscera, fat and bones are rendered for grease, which goes to tanneries. The tank liquor is carted away and deposited on open fields; the residue is pressed dry and sold for fertilizer. The bones are dried in a separate building and sold as glue stock. The rendering house adjoins the slaughterhouse, and is exceedingly dirty. Most of the meat goes to local butchers.

L.

This is a portion of a barn partitioned off for the killing of calves. About a dozen animals are killed every week. The offal is dropped into the cellar, where it is eaten by swine. Water has to be brought in for cleaning the floor, which is in poor condition. The place is dirty.

M.

A shed, covering 216 square feet, is used as a slaughterhouse for calves and poultry. The offal is carried away. Slaked lime is strewn over the unclean floor.

N.

From 6 to 10 calves are killed each week upon the barn floor. The offal and blood go to swine housed below. The place is very dirty.

O.

This is a shed in a field, adjoining which is a small yard for cattle, which are brought in through a door opening into the killing room, which has an area of 600 square feet. Through a small trap door in the floor, the blood and offal fall into a cellar, where, once a week, the accumulation is covered with sand and dry leaves. Adjoining is a place where horses and diseased cattle are said to be killed. All hides, hoofs, bones, fat and the carcasses of horses and diseased cattle are shipped to a rendering plant in Portland, Me., in metallic barrels.

The market meat, after cooling, is hung in a refrigerator, which has a floor space of 120 square feet. A certain amount of "barrel meat" is sold to sausage makers. This consists of trimmings and small irregular pieces which are packed in barrels with ice.

The floor of the slaughterhouse is rough and uneven, and though said to be cleaned every night is very dirty. The walls are very dirty and apparently are never cleaned. The place is infested with flies and is offensive to the sense of smell.

Horses with glanders, farcy, etc., are said to be killed in a pasture a mile or more away.

P.

At this place from 15 to 20 calves and several dozen chickens are killed each month in a shed covering 320 square feet of ground. In winter, hogs also are killed. The veal is sold to local markets. No "barrel meat" is sold. Although said to be cleaned after each day's use, the place is very dirty and untidy. Hides, fat, bones, etc., are sold to a rendering establishment.

Q.

This is an old slaughterhouse which is undergoing repairs. The killing room is 20 by 26 feet. Its floor is of rough and worn planks which slope to a trough. It can be flushed with a hose, but is dirty and bloody. The offal is thrown down into a cellar through a trap-door to the manure pile. That present on the day of inspection was two or three days old and very

offensive. The whole place was very offensive, even at a distance of 100 feet. The drainage from the cellar runs down hill for some little distance. The lighting and ventilation are good. In winter the place is heated by a stove.

The animals slaughtered are cattle and calves collected by two men, who kill about twice a week. The carcasses are cooled in a room having a floor space of 112 square feet. The floor, which is filthy and bloody, drains to a strainer. The hooks on which the meats are hung are greasy and bloody, and the beams are blackened and covered with grease and hair. Many flies were noticed.

R.

This is a shed, 12 by 18 feet, with a cement floor, used for killing calves. An ice box is connected. The place is in only fairly clean condition.

S.

The slaughterhouse is a shed covering 240 square feet. It is said to be cleaned after each killing. From 10 to 20 cattle are killed each week. These go to local butchers and to a wholesale dealer in a neighboring city. The offal is carted away to swine kept in the woods. The place is very dirty and everything is covered with flies. The odor is offensive. The fat and bones are sold to a soap company.

T.

This is a corner of a barn and covers 225 square feet. It is used not only for slaughtering calves and swine, but for the storage of harnesses, tools and barrels of cattle feed. The place is unclean. The offal is buried; the hides and hoofs are sold.

Sausage Factories and Canning Establishments.

The conditions obtaining in the establishments examined are, in the main, quite satisfactory, but in some instances there is much room for improvement, especially in the matter of dirty floors, promiscuous spitting, and treatment of meats which fall to the floor.

Following is a description of the places visited and examined. In the cases of those which have decidedly objectionable conditions the names are withheld, for the present at least, pending improvement.

Fred Baldau, Boston. — Manufacture of Sausages.

The room is fairly well lighted and is ventilated by power. Its floor is of wood, drains to strainers, and is clean and in good order. The floor, machinery and benches are scrubbed daily with hot water and washing soda. The ice chest is washed out twice weekly.

The employees are of healthy and intelligent appearance, and have not the spitting habit. They do not eat their noonday meal in the workroom.

Batchelder & Co., Boston. — Manufacture of Sausages.

The ventilation and lighting are good. The plant is clean and well kept in all its parts. The floors, which are of cement, are scrubbed and flushed daily. All tables are scrubbed and scraped every day, and the machinery is thoroughly cleaned after each period of use.

The employees, 25 in number, range in age from twenty to thirty-five years, and have an intelligent appearance. No spitting was observed.

—— —— —— *Company, Boston. — Manufacture of Sausages and Smoking Hams.*

The several workrooms are fairly well lighted and ventilated. The room in which the meat is trimmed and cut is dingy. The floor is covered with sawdust, which is swept up daily; it is washed once a week.

The meat-grinding and sausage-stuffing room has lately been whitewashed. The floor is said to be washed daily, but on the day of examination it was greasy and blackened. The tubs used for holding meat are lined with galvanized iron which has become slightly raised at the junction of the bottom and sides, making thorough cleaning impossible, but they are scrubbed as well as possible every day. The machines are cleaned after each use. The wooden tank in which hams are boiled is cleaned daily with hot water and washing soda. The table on which the sausages are stuffed is washed and scraped daily. The floor is covered with sawdust, is swept daily and washed once a week.

The smoking and boiling room has a floor which is partly concrete and partly wood. It is said to be washed daily, but at the time of visit was very black and dirty and in places almost muddy. The water-closet in the corner of the room ventilates directly into the room.

Much spitting was observed throughout the plant, and it was noticed that meat which fell to the floor was thrown back into the barrel without being cleaned.

The employees have a healthy appearance.

Berlo Brothers, Boston. — Manufacture of Sausages.

Light and ventilation are fair. The floor is of cement and is washed daily. All machines are cleaned every night. The floor of the refrigerator is cleaned with sawdust twice each week. The sausage table which slopes and drains into a bucket, is cleaned and scraped every day.

The employees range from twenty-two to forty-five years of age. They have a healthy and fairly intelligent appearance. Some spitting was observed, as was also the fact that meat which fell to the floor was picked up and thrown back with the rest without treatment.

H. L. Hoffman, Boston. — Manufacture of Sausages.

The room in which the meat is cut and mixed is poorly lighted and ventilated. The cement floor is cleaned and flushed daily. The machines are washed every day with hot water and washing soda.

The stuffing room has fair light and ventilation. The wooden floor is scrubbed daily with brooms and squilgees and flushed with a hose.

The employees are healthy and intelligent, and spit but little.

Pork Sausage Company, Boston. — Manufacture of Sausages.

The room in which the meat is cut has good light. The floor is covered with sawdust, is swept daily, and is scrubbed weekly. The bench is scrubbed and scraped daily. The meat barrels are washed about once or twice a week. Meat falling on the floor is thrown back without cleaning. Some spitting was observed.

The room for grinding and filling is poorly lighted. The floor is fairly clean and is washed every day; it pitches to two strainers and can be flushed as needed. The machines are cleaned and the tables scrubbed and scraped every night. Some spitting was observed.

The employees have a healthy appearance. A few of them eat in the workrooms, but the rest go out.

—— —— *Boston. — Packing and Canning Meats, Fish, etc.*

This business is carried on in a rather dilapidated old brick and wooden building, originally built for an icehouse. The building is heated by steam. The floors have iron drains in the centre, and are said to be cleaned every night, as are also the tubs, barrels and utensils. The cleaning is done with brushes, hot water and "Wyandotte powder." Many different products are canned here namely: chicken, mackerel, herring, spinach, dandelions, tomatoes, codfish balls, beans, soups, clams, tongues, devilled ham, etc., according to season and market demands.

On the first floor, in a room 130 by 60 feet, poorly lighted and with no means of artificial ventilation, the raw material is received and handled on tables covered with zinc. The refuse is thrown into barrels which are removed to a fertilizer works. The washing facilities for employees are somewhat meagre, but soap sometimes is supplied.

On the second floor, in a room 100 by 60 feet, the material to be canned is drained on tables, then cooked in steam-jacketed kettles and filled into cans by a plunger machine. Cans and solder are manufactured in one end of the room.

The tables are clean on top. The kettles are partly cleaned after using. The floor, ceiling and walls are not clean.

The labelling is done in a poorly lighted basement, 130 by 60 feet. This basement is both dark and damp, and has but few windows of small size on one side.

A. S. Spiegel, Boston. — Manufacture of Sausages.

The room in which the meats are cut is properly lighted and ventilated, and is neat and clean. The floor is of cement and is properly drained. The capacious refrigerator in which the meats and finished products are stored is very clean.

The large room in which the sausages are made has good light and is ventilated by a power fan. The floor is of concrete, covered with wooden slats, and drains to a strainer. The machinery and tables are scrubbed thoroughly every night.

The employees range in age from twenty to fifty years, are intelligent and healthy in appearance, and refrain from spitting. The noonday meal, for which one hour is allowed, is not eaten in the workrooms.

William Underwood Company, Boston. — Canned Meats and Fish.

The building is well lighted and ventilated, and kept in a scrupulously neat and clean condition.

The employees have a healthy appearance and are cleanly at their work. No spitting was observed. One hour is allowed for the noonday meal, which is not eaten in the workrooms.

—— —— *Company, Charlestown. — Manufacture of Sausages.*

The room is properly lighted and ventilated. The building is old and the floor is not tight and cannot be washed on account of the tenant below; but it is scraped and swept daily. The machinery and benches are washed every day. The floor is not clean. The refrigerator is fairly clean.

The employees appear to be healthy and fairly intelligent, but they indulge in considerable spitting. The noonday meal is not eaten in the workroom.

Moulton Provision Company, Haverhill. — Manufacture of Sausages.

The building is fairly lighted and ventilated, and is kept clean and in good order. The meats are kept in a clean refrigerator.

The employees have a healthy appearance. Little spitting was observed.

Carl A. Weitz, Somerville. — Manufacture of Sausages.

The building has good light in all its parts and is ventilated by power.

The cutting rooms are very neat and clean. The floors are scrubbed daily, as are also the benches. The large ice chests are clean and their floors are washed once or twice every week.

The grinding and stuffing room has a clean wooden floor, which drains

to one point and is scrubbed and flushed with a hose every day. The tables are scrubbed and scraped and the machines are cleaned with hot water and washing soda after the making of each batch of sausage. The ice chests connected with this room are clean and neat; the floors are washed frequently.

The room in which the meats and sausages are boiled has a tight floor draining to one point. The iron tanks are scrubbed thoroughly with hot water and washing soda every day. The urinal in a corner behind the smoke house is clean, and next to it is a washbasin with hot and cold water, and soap and towels, which employees resorting to it are obliged to use before returning to work.

The cellar, used for curing meats and for storage, has a cement floor draining to one point, and is very clean, as also is the large ice-room, in which tierces of meat are stored.

The workmen, 14 in number, range in age from twenty to forty-five years, and are healthy and intelligent. No spitting was observed.

REPORT ON CANNED MEATS.

On account of published charges concerning the conditions under which meats are said to be canned in some of the western packing houses, and concerning the nature of the materials used, the public has become so alarmed that all canned meats, no matter what their source, are viewed with considerable suspicion. Complaint has been made by those whose product is of a high grade that their business has been made to suffer by reason of the fact that less scrupulous manufacturers have used inferior meats, which, in a considerable number of cases, have been treated with chemical preservatives. In order that the public may know the truth with regard to canned meats and meat products, the State Board of Health has caused to be collected and examined nearly 150 different kinds from every possible source. The examination has included not only tests for the presence of chemical preservatives, but has been carried much farther, so as to ascertain the exact nature of the material used. In general it may be said that the results are favorable to the manufacturers both in the west and in the east; but certain preparations, the manufacture of which involves comminution or grinding, are very largely fraudulent in character, in that they are not what they purport to be. These preparations include the various potted tongues, chicken, beef and ham, and devilled chicken, turkey, ham and tongue. Preparations of the so-called roast beef, pressed beef, corned beef and whole tongues are naturally difficult to counterfeit, so far as material goes.

In the description below, unless mention is made of preservatives, it is to be understood that none was detected.

Potted Tongue.

Of this preparation, samples representing 4 brands were obtained. They were as follows: —

1. *G. H. Hammond & Co., Chicago.* — "Coin Special." This was found to consist of a small amount of normal muscle, considerable epidermis in large pieces, numerous blood vessels and nerves, and salivary gland, ground to a paste. Quality poor, the material being largely scrap.

2. *Libby, McNeill & Libby, Chicago.* — Abundant muscle, considerable epidermis, much granular debris, some fat and corn meal. Quality fair; but inasmuch as there appears to be no excuse for the presence of corn meal it must be regarded as adulterated.

3. *Van Camp Packing Company, Indianapolis, Ind.* — But little muscle, considerable debris, small amount of salivary gland, and considerable corn meal.

4. *Richardson & Robbins, Dover, Del.* — Appearance good. Muscle abundant; contains neither epidermis nor salivary gland. Quality excellent.

Potted Ox Tongue.

1. *Armour & Co., Chicago.* — Little muscle; chiefly epidermis, salivary gland and corn meal.

Potted Ham.

1. *Columbia Conserve Company, Indianapolis, Ind.* — Abundant muscle, considerable fat and connective tissue. Quality good.

2. *Jacob Dold, Buffalo, N. Y.* — Muscle abundant, some fat and lymph nodes, small amount of corn meal.

3. *Libby, McNeill & Libby, Chicago.* — Muscle fairly abundant, considerable fat. Quality fairly good.

4. *Richardson & Robbins, Dover, Del.* — Almost wholly muscle. Quality excellent.

5. *Van Camp Packing Company, Indianapolis, Ind.* — Muscle abundant, very little connective tissue. Quality good.

Potted Ham and Chicken.

1. *Richardson & Robbins, Dover, Del.* — Muscle of two kinds, very little fat. Quality excellent.

Potted Chicken.

1. *Columbia Conserve Company, Indianapolis, Ind.* — Muscle abundant, moderate amount of connective tissue. Quality good.

2. *Richardson & Robbins, Dover, Del.* — Chiefly muscle, with small amount of fat. Quality excellent.

3. *Armour & Co., Chicago.* — "Veribest." Fair amount of muscle, much fat and debris, with corn meal.

Potted Beef.

1. *Franco-American Food Company, Jersey City, N. J.* — Appearance good. Nearly all muscle. Quality good.

Devilled Ham.

Devilled ham is or should be ham to which seasoning has been added.

Definitions. — "Devil. In cookery; to season highly with mustard, pepper, etc., and broil." — Century Dictionary.

"Devil. To prepare for eating, as fish or meat already cooked but cold, by seasoning highly with Cayenne pepper, mustard, etc., and broiling or frying." — Standard Dictionary.

"Devil. To broil and pepper excessively. (A term of cookery.)" — Worcester Dictionary.

The majority of devilled hams in the market, however, contain added material which in no way can contribute to a sharp taste, or, indeed, to any taste. Corn meal, for example, adds nothing to the flavor, but it is cheap, and enables a meat product to carry considerable additional water.

1. *Armour & Co., Chicago.* — "Veribest." Contains some muscle and much corn meal.

2. *The Cudahy Canning Company, Chicago.* — "Rex" brand. "The taste tells." Contains a small amount of muscle, large amount of connective tissue, blood vessels and fat, large amount of corn meal, and some kidney tissue.

3. *Jacob Dold, Buffalo, N. Y.* — Muscle abundant, connective tissue moderate in amount, small amount of corn meal.

4. *Potter & Wrightington, Boston.* — Muscle abundant, fat and connective tissue moderate in amount. Contains either boric acid or borax as a preservative.

5. *Schwarzschild & Sulzberger, Chicago.* — "Advance" brand. Contains as much connective tissue as muscle. Is preserved with either boric acid or borax.

6. *William Underwood Company, Boston.* — Consists almost wholly of muscle, with spice. Quality excellent.

7. *Van Camp Packing Company, Indianapolis, Ind.* — Fairly abundant muscle, considerable connective tissue and debris. Quality fair.

8. *Roger I. Sherman Company, Boston.* — "Lawson Pink" brand. Muscle abundant, moderate amount of connective tissue and fat. No foreign matter. Is preserved with a boron preservative.

9. *Ottumwa Packing Company, Abattoir No. 17.* — "Eureka." Moderate amount of muscle, much connective tissue, and some corn meal. Quality poor. Is preserved with a boron preservative.

Devilled Tongue.

1. *Armour Packing Company, Kansas City, Mo.* — Muscle abundant, small amount of connective tissue and salivary gland. Quality fair.

2. *Huckins, Boston.* — Chiefly muscle, small amount of epithelium. Quality good.

3. *William Underwood Company, Boston.* — Almost wholly muscle with spice; very small amount of fat and connective tissue, no epithelium and no salivary gland. Quality excellent.

Devilled Chicken.

1. *Libby, McNeill & Libby, Chicago.* — "Peerless" brand. Consists of muscle, finely granular debris and corn meal.

2. *Potter & Wrightington, Boston.* — Abundant muscle; good flavor. Quality good.

3. *William Underwood Company, Boston.* — Almost wholly muscle with spice. Quality excellent.

Devilled Turkey.

1. *Huckins, Boston.* — Abundant muscle of various sizes. Quality good.

2. *Libby, McNeill & Libby, Chicago.* — Contains a small amount of muscle, much connective tissue and debris, and some corn meal.

3. *Potter & Wrightington, Boston.* — Abundant muscle. Quality good.

4. *William Underwood Company, Boston.* — Muscle and spice. Quality excellent.

Chicken Loaf.

The kitchen preparations known as "veal loaf," "ham loaf" and "chicken loaf" consist, usually, mainly of muscle, with or without cracker crumbs (according to the recipe used), and various flavoring substances. It will be observed that none of the following appears to have been made according to recipes to be found in the standard cook books.

1. *Armour & Co., Chicago.* — "Veribest." Contains a small amount of muscle and a large amount of corn meal.

2. *G. H. Hammond & Co., Chicago.* — "Coin Special Chicken Loaf." Very little muscle, much connective tissue and corn. It is preserved with either boric acid or borax. The label states that the material is of superior quality, "having been carefully selected and inspected according to the law enacted by Congress, March 3, 1891, relating to the inspection of meats."

3. *Libby, McNeill & Libby, Chicago.* — Contains a fair amount of muscle and a small amount of corn. Quality fair.

4. *Nelson Morris & Co., Chicago.* — Muscle fairly abundant, considerable corn meal. Label states that it has been inspected and approved by United States inspectors.

Veal Loaf.

1. *Armour & Co., Chicago.* — "Veribest." Small amount of muscle, much corn meal.

2. *The Cudahy Canning Company, Chicago.* — "Rex" brand. Small amount of muscle, large amount of corn meal.

3. *G. H. Hammond & Co., Chicago.* — "Coin Special." Contains almost no muscle, but a large amount of corn meal.

4. *Libby, McNeill & Libby, Chicago.* — Contains chiefly muscle and connective tissue, with small amount of corn meal.

5. *Nelson Morris & Co., Chicago.* — "Extra Choice." Muscle in moderate amount, small amount of corn meal.

Ham Loaf.

1. *Armour & Co., Chicago.* — "Veribest." Prolonged microscopic examination reveals some muscle; chiefly connective tissue and corn meal. Preserved with boric acid or borax. The label states that the meat in the package has been inspected in accordance with the provisions of act of Congress of March 3, 1891.

2. *Jacob Dold, Buffalo, N. Y.* — Of good appearance, and contains abundant muscle; no corn meal or other adulterant. Quality good.

3. *G. H. Hammond & Co., Chicago.* — "Coin Special." Contains muscle and a large amount of corn meal. The label states that the contents are of superior quality, having been selected "under our own supervision, and inspected according to the law enacted by Congress on March 3, 1891, regulating inspection of meats."

4. *Libby, McNeill & Libby, Chicago.* — Small amount of muscle; much corn meal.

Beef Loaf.

1. *Armour & Co., Chicago.* — "Veribest." Muscle scarce, much corn meal.

2. *Libby, McNeill & Libby, Chicago.* — Abundant muscle, considerable fat, some corn meal.

Boned Chicken.

Most of the specimens of boned chicken examined proved to be of excellent quality, some were fair, and some were distinctly inferior, both in appearance and color.

1. *Morris & Co., Chicago.* — Good appearance; pieces of good size. Quality good.

2. *The Mullen-Blackledge Company, Indianapolis, Ind.* — "Columbia Boned Chicken." Pieces of good size; appearance good. Quality good.

3. *Armour & Co., Chicago.* — "Veribest." Two specimens examined were bad in color and appearance; they contained small fragments of meat and large pieces of skin which contained pinfeathers, fragments of leg bones and an occasional black feather. Of four cans examined subsequently, three were of good quality and one contained scraps, skin and a single feather.

4. *Curtice Brothers' Company, Rochester, N. Y.* — "Blue Label." Pieces large and of good color; neither feathers nor bones. Quality excellent.

5. *Libby, McNeill & Libby, Chicago.* — Quality good.

6. *Van Camp Packing Company, Indianapolis, Ind.* — Good in color and in general appearance. Is preserved with a boron preservative.

7. *The Cudahy Canning Company, Chicago.* — "Rex" brand. Appearance and general character fairly good.

8. *Richardson & Robbins, Dover, Del.* — Appearance and general character excellent.

Boned Turkey.

1. *Van Camp Packing Company, Indianapolis, Ind.* — Meat in large pieces and of good color. Quality excellent.

2. *Armour & Co., Chicago.* — "Veribest." Of bad color and greasy character; contains small fragments of meat, some feathers, and large fragments of skin. Quality inferior.

3. *Richardson & Robbins, Dover, Del.* — Appearance and general character excellent.

Roast Beef, Corned Beef, Tongues, Canned Sausage, etc.

Of 7 different brands of corned beef, there was but 1 which contained an added preservative — either boric acid or borax. This bore the label of the "Oriental Packing Company." The label gives no indication of the geographical situation of this packing company, but it states that the contents were inspected under the act of Congress of March 3, 1891, at "Abattoir No. 17." It is interesting in this connection that the only 1 of 9 different brands of so-called "lunch tongue" which contained an added chemical preservative is known as the "Palace" brand, and purports to be manufactured by the "Inter Ocean Packing Company, U. S. A.;" and its label stated that the contents of the package had been inspected under the said act at "Abattoir No. 17." Also that the adulterated "Eureka" brand of devilled ham, put up by the "Ottumwa Packing Company," is prepared at "Abattoir No. 17."

Three brands of lambs' tongues, 1 of calves' tongues and 8 of ox tongues were found to be of excellent character; as were also 5 brands of corned beef hash, 1 of Hamburg steak, 1 of mincemeat, and 1 each of "fluid beef," extract of beef and pigs' feet. One brand of so-called "luncheon beef" and 4 brands of "roast beef" proved to be of good quality, but not one appeared to have been cooked by roasting. One specimen each of luncheon beef, pressed beef and brisket beef were of good quality. One specimen of canned smoked beef (the "Veribest" brand, Armour & Co., Chicago) contained a boron preservative, as did also 2 specimens of "chipped" beef, — one put up by the "German-American Provision Company," of Chicago, the other by Nelson Morris & Co., Chicago.

Of canned sausages, only 2 of the 7 brands examined were found to contain an added boron preservative, namely, the "Rex" brand German Lunch Sausage, and Rex Vienna Sausage: "The taste tells." (Cudahy Canning Company, Chicago.)

A number of canned entrées, as "veal and green peas," "Hungarian goulash," "beef à la mode," "chop suey," "chicken curry," "beef, Burgundy style," "sauer kraut and sausage," were examined and found to be of excellent quality. Most of these bore the label of the Franco-American Food Company of Jersey City.

One specimen of canned ham roll, put up by Nelson Morris & Co. of Chicago, and 1 of sugar cured ham, put up by the "Oriental Packing Company," whose corned beef was not only of inferior quality, but chemically preserved, were found to contain boron preservatives.

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WEEKLY RETURNS OF DEATHS FROM CITIES AND TOWNS OF MORE THAN 10,000 POPULATION.

Week ending July 7, 1906.

Cities and Towns.	Population,[1] Estimated for 1906.	Reported Deaths in Each.	Deaths under Five Years.	Deaths from—					
				Principal Infectious Diseases.	Acute Lung Diseases.	Phthisis.	Diphtheria.	Typhoid Fever.	Measles.
Boston,	602,528	168	49	38	11	17	2	1	1
Worcester,	130,171	29	12	8	1	3	–	–	–
Fall River,	105,943	56	39	31	5	2	–	–	–
Cambridge,	98,583	21	6	4	2	1	–	–	–
Lowell,	94,889	36	17	7	5	2	–	–	–
Lynn,	78,871	22	5	2	2	–	–	1	–
New Bedford,	77,006	29	16	15	1	3	–	–	–
Springfield,	76,255	20	7	2	2	–	–	–	–
Lawrence,	71,653	14	4	2	–	1	–	–	–
Somerville,	70,908	20	2	5	–	4	–	–	–
Holyoke,	50,824	22	10	9	1	2	–	1	–
Brockton,	49,511	5	1	1	–	1	–	–	–
Malden,	38,978	9	3	1	1	1	–	–	–
Salem,	37,970	–	–	–	–	–	–	–	–
Chelsea,	37,968	14	3	1	1	–	–	1	–
Haverhill,	37,962	13	1	1	1	1	–	–	–
Newton,	37,512	8	2	–	–	–	–	–	–
Fitchburg,	33,327	9	4	–	1	–	–	–	–
Taunton,	30,967	12	5	3	2	1	–	–	–
Everett,	30,173	4	–	2	–	2	–	–	–
Quincy,	28,995	7	3	1	1	–	–	–	–
Waltham,	26,881	3	1	–	–	–	–	–	–
Gloucester,	26,011	–	–	–	–	–	–	–	–
Pittsfield,	25,704	13	1	2	2	2	–	–	–
Brookline,	24,207	7	3	1	–	–	–	–	–
North Adams,	22,150	2	1	–	–	–	–	–	–
Chicopee,	20,402	9	7	1	1	–	–	–	–
Northampton,	20,175	7	2	1	–	–	1	–	–
Medford,	19,988	2	–	–	–	–	–	–	–
Beverly,	15,506	1	–	1	–	1	–	–	–
Hyde Park,	14,784	2	1	–	–	–	–	–	–
Newburyport,	14,715	5	1	2	–	–	–	1	–
Leominster,	14,712	4	3	–	1	–	–	–	–
Melrose,	14,578	3	1	1	–	–	–	1	–
Woburn,	14,432	–	–	–	–	–	–	–	–
Marlborough,	14,168	–	–	–	–	–	–	–	–
Westfield,	13,887	3	–	–	–	–	–	–	–
Peabody,	13,438	–	–	–	–	–	–	–	–
Revere,	13,168	1	1	–	–	–	–	–	–
Clinton,	13,105	2	1	1	–	1	–	–	–
Attleborough,	12,995	2	0	1	–	1	–	–	–
Adams,	12,775	2	–	–	–	–	–	–	–
Gardner,	12,267	–	–	–	–	–	–	–	–
Milford,	12,256	–	–	–	–	–	–	–	–
Weymouth,	11,638	–	–	–	–	–	–	–	–
Framingham,	11,598	–	–	–	–	–	–	–	–
Watertown,	11,597	0	–	–	–	–	–	–	–
Plymouth,	11,452	–	–	–	–	–	–	–	–
Southbridge,	11,206	1	–	1	–	–	–	–	–
Wakefield,	10,476	0	–	–	–	–	–	–	–
Webster,	10,280	–	–	–	–	–	–	–	–
Recapitulation.									
Total of reporting towns,	2,116,035	587	212	145	40	46	3	6	1

[1] The populations were estimated upon the rate of growth from 1900 to 1905. Those of Lowell, Taunton, Gloucester, North Adams and Clinton were allowed to stand as in 1905, having shown no increase during the five-year period.

WEEK ENDING JULY 14, 1906.

CITIES AND TOWNS.	Population. Estimated for 1906.	Reported Deaths in Each.	Deaths under Five Years.	DEATHS FROM— Principal Infectious Diseases.	Acute Lung Diseases.	Phthisis.	Diphtheria.	Typhoid Fever.	Measles.
Boston,	602,528	174	54	33	22	15	3	2	–
Worcester,	130,171	25	3	4	2	2	–	–	–
Fall River,	105,943	50	39	30	2	2	–	–	–
Cambridge,	98,583	23	7	6	1	3	–	1	–
Lowell,	94,889	50	31	22	5	4	–	–	1
Lynn,	78,871	17	2	5	–	4	–	–	–
New Bedford,	77,006	20	12	8	1	2	1	–	–
Springfield,	76,255	28	8	5	3	3	–	1	–
Lawrence,	71,653	31	17	15	–	3	–	–	–
Somerville,	70,908	9	2	1	1	–	–	–	–
Holyoke,	50,824	23	13	9	1	1	–	–	–
Brockton,	49,511	7	2	2	–	–	–	1	–
Malden,	38,978	7	4	1	–	–	–	–	–
Salem,	37,970	7	3	2	–	–	–	–	–
Chelsea,	37,968	15	5	–	2	–	–	–	–
Haverhill,	37,962	8	1	1	1	1	–	–	–
Newton,	37,512	6	4	–	–	–	–	–	–
Fitchburg,	33,327	13	6	2	2	–	–	–	–
Taunton,	30,967	12	3	5	–	3	–	1	–
Everett,	30,173	11	3	2	–	2	–	–	–
Quincy,	28,995	3	2	1	–	–	–	–	–
Waltham,	26,881	3	1	–	–	–	–	–	–
Gloucester,	26,011	8	3	1	–	–	–	1	–
Pittsfield,	25,704	8	1	1	–	–	–	–	1
Brookline,	24,207	2	–	–	–	–	–	–	–
North Adams,	22,150	7	1	2	–	1	–	–	–
Chicopee,	20,402	7	5	3	–	1	–	–	–
Northampton,	20,175	4	0	–	–	–	–	–	–
Medford,	19,988	6	2	–	2	–	–	–	–
Beverly,	15,506	3	–	1	–	1	–	–	–
Hyde Park,	14,784	3	1	1	–	–	1	–	–
Newburyport,	14,715	3	–	–	1	–	–	–	–
Leominster,	14,712	–	–	–	–	–	–	–	–
Melrose,	14,578	4	1	–	–	–	–	–	–
Woburn,	14,432	4	3	2	–	–	–	–	–
Marlborough,	14,168	4	2	2	–	2	–	–	–
Westfield,	13,887	3	1	–	–	–	–	–	–
Peabody,	13,438	–	–	–	–	–	–	–	–
Revere,	13,168	4	1	1	–	1	–	–	–
Clinton,	13,105	2	0	–	–	–	–	–	–
Attleborough,	12,995	3	0	2	–	1	–	–	–
Adams,	12,775	2	–	–	1	–	–	–	–
Gardner,	12,267	1	–	–	–	–	–	–	–
Milford,	12,256	4	–	–	–	–	–	–	–
Weymouth,	11,638	3	0	–	–	–	–	–	–
Framingham,	11,598	–	–	–	–	–	–	–	–
Watertown,	11,597	1	0	–	–	–	–	–	–
Plymouth,	11,452	–	–	–	–	–	–	–	–
Southbridge,	11,206	0	–	–	–	–	–	–	–
Wakefield,	10,476	–	–	–	–	–	–	–	–
Webster,	10,280	–	–	–	–	–	–	–	–

Recapitulation.

Total of reporting towns,	2,219,589	628	243	169	47	52	5	7	2

WEEK ENDING JULY 21, 1906.

CITIES AND TOWNS.	Population. Estimated for 1906.	Reported Deaths in Each.	Deaths under Five Years.	DEATHS FROM—					
				Principal Infectious Diseases.	Acute Lung Diseases.	Phthisis.	Diphtheria.	Typhoid Fever.	Measles.
Boston,	602,528	219	77	59	19	27	1	–	1
Worcester,	130,171	33	11	10	–	2	–	–	–
Fall River,	105,943	51	32	28	2	3	–	–	–
Cambridge,	98,583	22	11	7	3	2	1	1	–
Lowell,	94,889	33	23	9	1	–	–	–	–
Lynn,	78,871	26	8	6	–	3	–	–	–
New Bedford,	77,006	32	20	11	1	4	–	–	–
Springfield,	76,255	25	8	6	–	1	–	–	–
Lawrence,	71,653	34	24	24	1	2	–	1	1
Somerville,	70,908	13	3	1	–	1	–	–	–
Holyoke,	50,824	23	9	6	1	1	–	–	–
Brockton,	49,511	8	4	4	–	2	–	–	–
Malden,	38,978	7	–	–	–	–	–	–	–
Salem,	37,970	16	6	3	–	2	1	–	–
Chelsea,	37,968	9	6	1	1	–	–	–	–
Haverhill,	37,962	16	3	5	–	4	–	1	–
Newton,	37,512	5	1	–	–	–	–	–	–
Fitchburg,	33,327	9	6	–	–	–	–	–	–
Taunton,	30,967	15	4	5	–	1	–	–	–
Everett,	30,173	7	2	1	–	1	–	–	–
Quincy,	28,995	6	2	2	2	2	–	–	–
Waltham,	26,881	10	–	2	2	2	–	–	–
Gloucester,	26,011	5	1	–	–	–	–	–	–
Pittsfield,	25,704	3	–	–	–	–	–	–	–
Brookline,	24,207	7	1	–	1	–	–	–	–
North Adams,	22,150	4	0	–	–	–	–	–	–
Chicopee,	20,402	10	7	4	–	–	–	–	–
Northampton,	20,175	4	1	–	–	–	–	–	–
Medford,	19,988	6	–	1	–	1	–	–	–
Beverly,	15,506	8	–	1	–	1	–	–	–
Hyde Park,	14,784	3	1	–	–	–	–	–	–
Newburyport,	14,715	4	–	–	–	–	–	–	–
Leominster,	14,712	5	1	1	–	–	1	–	–
Melrose,	14,578	–	–	–	–	–	–	–	–
Woburn,	14,432	6	2	1	–	1	–	–	–
Marlborough,	14,168	5	1	1	–	1	–	–	–
Westfield,	13,887	3	–	1	–	1	–	–	–
Peabody,	13,438	–	–	–	–	–	–	–	–
Revere,	13,168	3	1	–	–	–	–	–	–
Clinton,	13,105	1	–	–	–	–	–	–	–
Attleborough,	12,995	5	2	1	–	–	–	–	–
Adams,	12,775	5	–	–	–	–	–	–	–
Gardner,	12,267	–	–	–	–	–	–	–	–
Milford,	12,256	2	–	–	–	–	–	–	–
Weymouth,	11,638	3	0	–	–	–	–	–	–
Framingham,	11,598	3	1	1	–	1	–	–	–
Watertown,	11,597	2	0	–	–	–	–	–	–
Plymouth,	11,452	–	–	–	–	–	–	–	–
Southbridge,	11,206	2	2	1	1	–	–	–	–
Wakefield,	10,476	2	–	–	–	–	–	–	–
Webster,	10,280	–	–	–	–	–	–	–	–

Recapitulation.

Total of reporting towns,	2,229,530	720	281	207	35	66	4	3	2

WEEK ENDING JULY 28, 1906.

CITIES AND TOWNS.	Population. Estimated for 1906.	Reported Deaths in Each.	Deaths under Five Years.	DEATHS FROM—					
				Principal Infectious Diseases.	Acute Lung Diseases.	Phthisis.	Diphtheria.	Typhoid Fever.	Measles.
Boston,	602,528	211	80	73	11	18	2	4	–
Worcester,	130,171	45	21	8	2	7	–	–	–
Fall River,	105,943	46	32	29	1	4	–	–	–
Cambridge,	98,583	25	13	7	2	1	–	–	–
Lowell,	94,889	50	27	13	4	2	–	–	–
Lynn,	78,871	20	8	7	–	2	–	–	–
New Bedford,	77,006	26	19	18	–	1	–	–	–
Springfield,	76,255	23	13	10	–	3	1	–	–
Lawrence,	71,653	19	14	14	2	1	–	–	1
Somerville,	70,908	13	3	3	–	1	–	–	–
Holyoke,	50,824	19	10	8	2	2	–	–	–
Brockton,	49,511	15	5	2	–	2	–	–	–
Malden,	38,978	10	1	1	–	–	–	1	–
Salem,	37,970	13	4	4	1	–	–	–	–
Chelsea,	37,968	16	7	2	–	2	–	–	–
Haverhill,	37,962	12	3	3	–	1	–	–	–
Newton,	37,512	2	–	1	–	1	–	–	–
Fitchburg,	33,327	12	10	–	–	–	–	–	–
Taunton,	30,967	12	6	7	–	3	–	–	–
Everett,	30,173	8	6	–	–	–	–	–	–
Quincy,	28,995	7	5	2	–	–	–	–	–
Waltham,	26,881	10	6	3	–	2	–	–	–
Gloucester,	26,011	4	1	–	–	–	–	–	–
Pittsfield,	25,704	8	3	5	–	1	–	1	–
Brookline,	24,207	5	–	–	–	–	–	–	–
North Adams,	22,150	7	2	1	–	–	–	1	–
Chicopee,	20,402	13	8	8	–	1	–	–	–
Northampton,	20,175	7	1	1	–	1	–	–	–
Medford,	19,988	3	1	–	–	–	–	–	–
Beverly,	15,506	3	–	–	–	–	–	–	–
Hyde Park,	14,784	2	2	1	–	–	1	–	–
Newburyport,	14,715	1	–	–	–	–	–	–	–
Leominster,	14,712	2	–	–	–	–	–	–	–
Melrose,	14,578	2	1	–	–	–	–	–	–
Woburn,	14,432	4	2	1	–	–	–	–	–
Marlborough,	14,168	–	–	–	–	–	–	–	–
Westfield,	13,887	–	–	–	–	–	–	–	–
Peabody,	13,438	–	–	–	–	–	–	–	–
Revere,	13,168	7	4	1	–	–	–	–	–
Clinton,	13,105	2	–	–	–	–	–	–	–
Attleborough,	12,995	5	4	4	–	–	–	1	–
Adams,	12,775	–	–	–	–	–	–	–	–
Gardner,	12,267	–	–	–	–	–	–	–	–
Milford,	12,256	6	1	2	–	–	–	–	–
Weymouth,	11,638	1	1	1	–	–	–	–	–
Framingham,	11,598	14	–	–	–	–	–	–	–
Watertown,	11,597	1	1	1	–	–	–	–	–
Plymouth,	11,452	–	–	–	–	–	–	–	–
Southbridge,	11,206	3	1	2	–	1	–	–	–
Wakefield,	10,476	–	–	–	–	–	–	–	–
Webster,	10,280	–	–	–	–	–	–	–	–

Recapitulation.

Total of reporting towns,	2,192,802	714	326	243	25	57	4	8	1

WEEKLY RETURNS OF DEATHS FROM CERTAIN INFECTIOUS DISEASES.

DEATHS FROM INFECTIOUS DISEASES NOT SPECIFICALLY MENTIONED IN ABOVE TABLES DURING THE WEEKS OF JULY 7, 14, 21 AND 28, 1906.

DISEASE.	Place.	WEEK ENDING—			
		July 7.	July 14.	July 21.	July 28.
Cerebro-spinal meningitis,	Boston,	4	2	1	1
	Brockton,	–	1	1	–
	Lowell,	1	–	–	1
	Lynn,	–	–	–	1
	Taunton,	–	–	–	1
	Weymouth,	–	–	–	1
	Worcester,	1	–	1	1
Scarlet fever,	Boston,	–	1	–	1
	Lowell,	–	1	–	
	North Adams,	–	1	–	–
Erysipelas,	Boston,	1	–	1	1
	Holyoke,	–	1	–	–
Whooping-cough,	Attleborough,	–	–	–	1
	Boston,	3	4	5	3
	Fall River,	1	–	1	–
	Fitchburg,	–	2	–	–
	Holyoke,	–	–	–	2
	Lawrence,	–	2	1	–
	Malden,	–	1	–	–
	Salem,	–	–	–	1
	Springfield,	–	–	–	1
	Taunton,	–	–	1	–
	Quincy,	1	1	–	–
Hydrophobia,	Attleborough,	–	1	–	–

WEEKLY RETURNS OF CASES OF INFECTIOUS DISEASES.

CASES OF INFECTIOUS DISEASES REPORTED DURING THE WEEKS OF JULY 7, 14, 21 AND 28, 1906.

[Under the provisions of section 52 of chapter 75 of the Revised Laws.]

	WEEK ENDING —			
	July 7.	July 14.	July 21.	July 28.
Diphtheria,	84	94	74	85
Measles,	111	99	51	34
Scarlet fever,	65	57	53	51
Typhoid fever,	18	28	33	42
Tuberculosis,	46	48	60	54
Cerebro-spinal meningitis,	5	1	3	3
Smallpox,	2	–	–	1
Erysipelas,	1	–	1	–

MONTHLY REPORT ON INSPECTION OF FOOD AND DRUGS.

The following summary presents the results of the examinations of food and drugs made by the State Board of Health during the month of July, 1906: —

ARTICLES EXAMINED.	Number found to be of Good Quality.	Number adulterated or varying from the Legal Standard.	Total.	ARTICLES EXAMINED.	Number found to be of Good Quality.	Number adulterated or varying from the Legal Standard.	Total.
Milk,	243	42	285	Grape juice,	4	–	4
Butter,	8	–	8	Lime juice,	–	3	3
Cream,	20	–	20	Clams,	2	–	2
Spices,	9	5	14	Malt extract,	1	–	1
Cream of tartar,	3	–	3	Beer,	1	1	2
Cider,	2	–	2	Non-alcoholic drinks,	6	1	7
Canned soups,	1	3	4	Molasses,	1	–	1
Cocoa,	1	–	1	Maple syrup,	1	–	1
Coffee,	1	–	1	Vinegar,	6	–	6
Sausages,	2	–	2	Jam,	1	–	1
Head cheese,	2	1	3	Drugs,	168	21	189
Tripe,	4	1	5				
Canned meats,	43	10	53				
Flavoring extracts,	1	2	3	Total,	531	90	621

The samples of drugs found to be adulterated were: alcohol, aqua hamemelidis spirituosa, calx chlorata, sodii boras, and tinctura iodi.

The cities and towns in which samples were collected were: Adams, Arlington, Boston, Brookline, Cambridge, Chelsea, Danvers, Dedham, Gloucester, Greenfield, Lawrence, Leominster, Lowell, Malden, Medford, Melrose, Milton, North Adams, Norwood, Plymouth, Peabody, Provincetown, Quincy, Salem, Saugus, Stoneham, Springfield, Waltham, Ware, Wakefield, Watertown, Wayland, Wellesley and Williamstown.

PROSECUTIONS FOR VIOLATIONS OF THE LAW RELATING TO FOOD AND DRUGS.

Twenty-one convictions were secured during the month of July, 1906, for selling adulterated food and drugs, as follows: —

No.	Name of Defendant.	Place.	Character of Article sold.
1	Fred. P. Warner,	Beverly,	Milk.
2	Arthur E. Cox,	Boston,	Ginger wine.
3	Harry P. Hale,	Boston,	Jellied pigs feet.
4	Joseph M. Sisonsky,	Boston,	Witch hazel extract.
5	Joseph M. Sisonsky,	Boston,	Witch hazel extract.
6	Harry P. Hale,	Boston,	Mince meat.
7	Benj. F. Bradbury,	Boston,	Tincture iodine.
8	Benj. J. Wernick,	Boston,	Witch hazel extract.
9	Chas. H. Wright,	Dedham,	Milk.
10	Chas. H. Wright,	Dedham,	Milk.
11	Geo. F. Hamilton,	Everett,	Milk.
12	Edwin R. Fiske,	Greenfield,	Beeswax.
13	Geo. E. Waldron,	Gloucester,	Milk.
14	Thos. E. Sputtle,	Gloucester,	Milk.
15	William B. Cary,	Lowell,	Pickled tripe.
16	Almon O. Welch,	Leominster,	Milk.
17	Arthur J. Green,	North Adams,	Milk.
18	Chas. E. Holden,	Peabody,	Milk.
19	Howard D. Porter,	Springfield,	Milk.
20	Joseph H. Beauvis,	Springfield,	Olive oil.
21	Martin L. Poole,	Wakefield,	Milk.

Number of Sample.	Character of Sample.	Brand, or Name of Manufacturer, Wholesaler or Producer.	Results of Analyses.
1557	Milk,	W. S. Dahonski, Adams,	12.70 per cent. solids; preserved with formaldehyde.
1558	Milk,	W. S. Dahonski, Adams,	12.50 per cent. solids; preserved with formaldehyde.
1573	Milk,	Wm. F. Card, Adams,	14.08 per cent. solids, preserved with a boron preservative.
1638	Milk,	Frank W. Bateman, Norwood,	11.63 per cent. solids; preserved with formaldehyde.
1643	Milk,	Charles H. Wright, Norwood,	11.23 per cent. solids; preserved with a boron preservative.
1666	Milk,	Nelson Marlow, Adams,	13.01 per cent. solids; preserved with formaldehyde.
1667	Milk,	Nelson Marlow, Adams,	13.80 per cent. solids; preserved with formaldehyde.
1446 M,	Milk,	Geo. F. Hamilton, Everett,	12.56 per cent. solids; preserved with formaldehyde.
1448 M,	Milk,	Geo. F. Hamilton, Everett,	12.30 per cent. solids; preserved with formaldehyde.
1686	Milk,	Wm. E. Ralton, Lawrence,	10.80 per cent. solids; contained added water.
1688	Milk,	Wm. E. Ralton, Lawrence,	10.89 per cent. solids; contained added water.
1462	Lime juice,	Blue Hill Preserving Company, Boston,	20.00 per cent. added water; no formula.
916 M,	Lime juice,	J. P. W. van Laer, Boston,	60.00 per cent. added water; not stated in formula.
5087 N,	Cloves,	B. Fischer & Co., N. Y.,	Admixture of clove stems.
5093 N,	Mace,	B. Fischer & Co., N. Y.,	Admixture of wild mace.
5095 N,	Mustard,	B. Fischer & Co., N. Y.,	Admixture of turmeric.
1576	Mustard,	Milk, Tea and Butter Company, North Adams,	Admixture of turmeric.
1541	Mustard,	Berry, Dodge & Co., Newburyport,	Admixture of weed seeds.
1682	Ginger champagne,	Boonville Mineral Spring Company, Boonville, N. Y.,	Preserved with salicylic acid.
1414	Tincture of iodine,	Geo. H. Malley, 3700 Washington Street, Forest Hills,	62 50 per cent. of required strength.
1706	Tincture of iodine,		8.20 per cent. of required strength.
1118 M,	Tincture of iodine,	H. P. Elsley, Springfield,	63.00 per cent. of required strength.
1224	Chlorinated lime,	"Larkin," Buffalo, N. Y.,	74.00 per cent. of required strength.
1492	Smith's powdered bicarbonate borax.	F. H. Woolworth, 562 Washington Street, Boston,	Sodium bi-carbonate; no borax in sample.
1496	Witch hazel extract,		4.62 per cent. alcohol; contained formaldehyde.
5153 N,	Witch hazel extract,	Dr. Miner's Drug Store, Ware, Mass.,	10.00 per cent. alcohol; contained formaldehyde.
1234 M,	Witch hazel extract,	Hanover Drug Company, Boston,	7.93 per cent. alcohol; contained formaldehyde.
1060 M,	Witch hazel extract,	Lloyd L. Walker, Lowell,	8.50 per cent. alcohol; contained formaldehyde.
1483	Witch hazel extract,	James O'Brien, Lowell,	8.57 per cent. alcohol; contained formaldehyde.
1278 M,	Witch hazel extract,	Lyceum Hall Pharmacy, Brookline,	9.86 per cent. alcohol; contained formaldehyde.
1292 M,	Witch hazel extract,	Dartmouth Drug Company, Boston,	6.28 per cent. alcohol; contained formaldehyde.
1294 M,	Witch hazel extract,	McCarthy's Pharmacy, Boston,	6.28 per cent. alcohol; contained formaldehyde.
1032 M,	Witch hazel extract,	J. M. Sisonsky, Boston,	4.75 per cent. wood alcohol; contained formaldehyde.
5297 N,	Witch hazel extract,	Harvard Extract Company, Cambridgeport,	9.00 per cent. wood alcohol; contained formaldehyde.

INSPECTION OF DAIRIES.

During the month of July, 1906, 194 dairies were examined in the following places: —

Place.	Number examined.	Number found to present no Objectionable Features.	Per Cent	Number to which Letters were sent.	Per Cent.
Amesbury,	26	16	61.54	10	38.46
Merrimac,	25	11	44.00	14	56.00
Methuen,	130	61	46.92	69	53.07
Revere,	13	2	15.38	11	84.62

Total number of dairies examined,	194
Number found free from objectionable conditions,	90
Number to which letters were sent,	104
Total number of conditions to which attention was called,	520
Percentage of dairies which passed inspection,	46.39

The names of the owners of the dairies found to be worthy of commendation follow.

Amesbury.

Amesbury Town Farm.
Bartlett, E. P.
Battie, George.
Chesley, M. Berry.
Collins, S. J.
Crurier, W. B.
Davis, J. A.
Dodge, C. M.
Huntington, Edw.
Little, J. P.
Mahoney, John.
McNeil, John.
Merrill, Albert.
Reed, George.
True, Eben.
Wilson, H. I.

Merrimac.

Battie, Ezra.
Drury, Charles.
Drury, Elmer.
Gordon, Edith.
Kenison, Albert E.
Kennet, LaForrest.
Little, E. C.
Maguire, Patrick.
Manning, Mary.
Sargent, H. R.
Sargent, J. H.

Methuen.

Bodwell, Frank.
Bodwell, Willard.
Boletti, Corso.
Bragdon, E. L.
Brooks, Charles.
Brown, Seth H.
Bryant, Edwin S.
Clark, Fred.
Clark, Irving.
Clough, Asa.
Cohn, Jeremiah.
Connelly, Dennis F.
Cornell, Lyman.
Courtney, James.
Cross, George L.
Dowding, Edw.
Emerson, Joseph.
Florette, Jesse.
Foster, F. W.
Giles, John H.
Griffin, Samuel.
Hall, John.
Joy, Samuel.
Kelley, Harry.
Knightly, David L.
Lanoette, Martin.
Laroque, James.

Lazelle, Henry.
Londa, Gustav.
Mackay, J. A. C.
Mann, Charles.
Merrill, Lowell.
Methuen Town Farm.
Miller, Fred W.
Mitchell, George.
Moreau, Narcisa.
Morse Bros.
Neeley, Robert.
Nelson, D. D.
Nice, Benjamin.
Ossler, Charles.
Otis, Nathan.
Quigley, J. J.
Rich, Charles S.
Richardson, J. B.
Russ, Comrey.
Sharpe, Arthur.
Simpson, Eli.
Smith, James.
Stevens, Charles.
Stevens, George.
Stickney, Fred W.
Stratton, James.
Sumner, Frank Est.
Titcomb, Charles.
Warren, Isaac.
Watt, James.
Webster, George K.
Welch, Mrs. Sarah.
Welch, Silas P.
Williams, William.

Revere.

Derby, William H.
Tutein, Mrs. A. E.

THE NATIONAL PURE FOOD LAW.

Following is the text of the national pure food law, passed by Congress on June 29, 1906: —

AN ACT FOR PREVENTING THE MANUFACTURE, SALE, OR TRANSPORTATION OF ADULTERATED OR MISBRANDED OR POISONOUS OR DELETERIOUS FOODS, DRUGS, MEDICINES, AND LIQUORS, AND FOR REGULATING TRAFFIC THEREIN, AND FOR OTHER PURPOSES.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That it shall be unlawful for any person to manufacture within any Territory or the District of Columbia, any article of food or drug, which is adulterated or misbranded within the meaning of this Act; and any person who shall violate any of the provisions of this section shall be guilty of a misdemeanor, and for each offense shall, upon conviction thereof, be fined not to exceed five hundred dollars or shall be sentenced to one year's imprisonment, or both such fine and imprisonment, in the discretion of the court, and for each subsequent offense and conviction thereof shall be fined not less than one thousand dollars or sentenced to one year's imprisonment, or both such fine and imprisonment, in the discretion of the court.

Sec. 2. That the introduction into any State or Territory or the District of Columbia from any other State or Territory or the District of Columbia, or from any foreign country, or shipment to any foreign country of any article of food or drugs which is adulterated or misbranded, within the meaning of this Act, is hereby prohibited; and any person who shall ship or deliver for shipment from any State or Territory or the District of Columbia to any other State or Territory or the District of Columbia, or to a foreign country, or who shall receive in any State or Territory or the District of Columbia from any other State or Territory or the District of Columbia, or foreign country,

and having so received, shall deliver, in original unbroken packages, for pay or otherwise, or offer to deliver to any other person, any such article so adulterated or misbranded within the meaning of this Act, or any person who shall sell or offer for sale in the District of Columbia or the Territories of the United States any such adulterated or misbranded foods or drugs, or export or offer to export the same to any foreign country, shall be guilty of a misdemeanor, and for such offense be fined not exceeding two hundred dollars for the first offense, and upon conviction for each subsequent offense not exceeding three hundred dollars or be imprisoned not exceeding one year, or both, in the discretion of the court: Provided, That no article shall be deemed misbranded or adulterated within the provisions of this Act when intended for export to any foreign country and prepared or packed according to the specifications or directions of the foreign purchaser when no substance is used in the preparation or packing thereof in conflict with the laws of the foreign country to which said article is intended to be shipped; but if said article shall be in fact sold or offered for sale for domestic use or consumption, then this proviso shall not exempt said article from the operation of any of the other provisions of this Act.

Sec. 3. That the Secretary of the Treasury, the Secretary of Agriculture, and the Secretary of Commerce and Labor shall make uniform rules and regulations for carrying out the provisions of this Act, including the collection and examination of specimens of foods and drugs manufactured or offered for sale in the District of Columbia, or in any Territory of the United States, or which shall be offered for sale in unbroken packages in any State other than that in which they shall have been respectively manufactured or produced, or which shall be received from any foreign country, or intended for shipment to any foreign country, or which may be submitted for examination by the chief health, food, or drug officer of any State, Territory, or the District of Columbia, or at any domestic or foreign port through which such product is offered for interstate commerce, or for export or import between the United States and any foreign port or country.

Sec. 4. That the examinations of specimens of foods and drugs shall be made in the Bureau of Chemistry of the Department of Agriculture, or under the direction and supervision of such Bureau, for the purpose of determining from such examinations whether such articles are adulterated or misbranded within the meaning of this Act; and if it shall appear from any such examination that any of such specimens is adulterated or misbranded within the meaning of this Act, the Secretary of Agriculture shall cause notice thereof to be given to the party from whom such sample was obtained. Any party so notified shall be given an opportunity to be heard, under such rules and regulations as may be prescribed as aforesaid, and if it appears that any of the provisions of this Act have been violated by such party, then the Secretary of Agriculture shall at once certify the facts to the proper United States district attorney, with a copy of the results of the analysis or the examination of such article duly authenticated by the analyst or officer making such examination, under the oath of such officer. After judgment of the court, notice shall be given

by publication in such manner as may be prescribed by the rules and regulations aforesaid.

Sec. 5. That it shall be the duty of each district attorney to whom the Secretary of Agriculture shall report any violation of this Act, or to whom any health or food or drug officer or agent of any State, Territory, or the District of Columbia shall present satisfactory evidence of any such violation, to cause appropriate proceedings to be commenced and prosecuted in the proper courts of the United States, without delay, for the enforcement of the penalties as in such case herein provided.

Sec. 6. That the term "drug," as used in this Act, shall include all medicines and preparations recognized in the United States Pharmacopoeia or National Formulary for internal or external use, and any substance or mixture of substances intended to be used for the cure, mitigation, or prevention of disease of either man or other animals. The term "food," as used herein, shall include all articles used for food, drink, confectionery, or condiment by man or other animals, whether simple, mixed, or compound.

Sec. 7. That for the purposes of this Act an article shall be deemed to be adulterated:

In case of drugs:

First. If, when a drug is sold under or by a name recognized in the United States Pharmacopoeia or National Formulary, it differs from the standard of strength, quality, or purity, as determined by the test laid down in the United States Pharmacopoeia or National Formulary official at the time of investigation: Provided, That no drug defined in the United States Pharmacopoeia or National Formulary shall be deemed to be adulterated under this provision if the standard of strength, quality, or purity be plainly stated upon the bottle, box, or other container thereof although the standard may differ from that determined by the test laid down in the United States Pharmacopoeia or National Formulary.

Second. If its strength or purity fall below the professed standard or quality under which it is sold.

In the case of confectionery:

If it contain terra alba, barytes, talc, chrome yellow, or other mineral substance or poisonous color or flavor, or other ingredient deleterious or detrimental to health, or any vinous, malt or spirituous liquor or compound or narcotic drug.

In the case of food:

First. If any substance has been mixed and packed with it so as to reduce or lower or injuriously affect its quality or strength.

Second. If any substance has been substituted wholly or in part for the article.

Third. If any valuable constituent of the article has been wholly or in part abstracted.

Fourth. If it be mixed, colored, powdered, coated, or stained in a manner whereby damage or inferiority is concealed.

Fifth. If it contain any added poisonous or other added deleterious ingre-

dient which may render such article injurious to health: Provided, That when in the preparation of food products for shipment they are preserved by an external application applied in such manner that the preservative is necessarily removed mechanically, or by maceration in water, or otherwise, and directions for the removal of said preservative shall be printed on the covering or the package, the provisions of this Act shall be construed as applying only when said products are ready for consumption.

Sixth. If it consists in whole or in part of a filthy, decomposed, or putrid animal or vegetable substance, or any portion of an animal unfit for food, whether manufactured or not, or if it is the product of a diseased animal, or one that has died otherwise than by slaughter.

Sec. 8. That the term "misbranded," as used herein, shall apply to all drugs, or articles of food, or articles which enter into the composition of food, the package or label of which shall bear any statement, design, or device regarding such article, or the ingredients or substances contained therein which shall be false or misleading in any particular, and to any food or drug product which is falsely branded as to the State, Territory, or country in which it is manufactured or produced.

That for the purposes of this Act an article shall also be deemed to be misbranded:

In case of drugs:

First. If it be an imitation of or offered for sale under the name of another article.

Second. If the contents of the package as originally put up shall have been removed, in whole or in part, and other contents shall have been placed in such package, or if the package fail to bear a statement on the label of the quantity or proportion of any alcohol, morphine, opium, cocaine, heroin, alpha or beta eucaine, chloroform, cannabis indica, chloral hydrate, or acetanilide, or any derivative or preparation of any such substances contained therein.

In the case of food:

First. If it be an imitation of or offered for sale under the distinctive name of another article.

Second. If it be labeled or branded so as to deceive or mislead the purchaser, or purport to be a foreign product when not so, or if the contents of the package as originally put up shall have been removed in whole or in part and other contents shall have been placed in such package, or if it fail to bear a statement on the label of the quantity or proportion of any morphine, opium, cocaine, heroin, alpha or beta eucaine, chloroform, cannabis indica, chloral hydrate, or acetanilide, or any derivative or preparation of any of such substances contained therein.

Third. If in package form, and the contents are stated in terms of weight or measure, they are not plainly and correctly stated on the outside of the package.

Fourth. If the package containing it or its label shall bear any statement, design, or device regarding the ingredients or the substances contained therein, which statement, design, or device shall be false or misleading in any particu-

lar: Provided, That an article of food which does not contain any added poisonous or deleterious ingredients shall not be deemed to be adulterated or misbranded in the following cases:

First. In the case of mixtures or compounds which may be now or from time to time hereafter known as articles of food, under their own distinctive names, and not an imitation of or offered for sale under the distinctive name of another article, if the name be accompanied on the same label or brand with a statement of the place where said article has been manufactured or produced.

Second. In the case of articles labeled, branded, or tagged so as to plainly indicate that they are compounds, imitations or blends, and the word "compound," "imitation," or "blend," as the case may be, is plainly stated on the package in which it is offered for sale: Provided. That the term blend as used herein shall be construed to mean a mixture of like substances, not excluding harmless coloring or flavoring ingredients used for the purpose of coloring and flavoring only: And provided further, That nothing in this Act shall be construed as requiring or compelling proprietors or manufacturers of proprietary foods which contain no unwholesome added ingredient to disclose their trade formulas, except in so far as the provisions of this Act may require to secure freedom from adulteration or misbranding.

Sec. 9. That no dealer shall be prosecuted under the provisions of this Act when he can establish a guaranty signed by the wholesaler, jobber, manufacturer, or other party residing in the United States, from whom he purchases such articles, to the effect that the same is not adulterated or misbranded within the meaning of this Act, designating it. Said guaranty, to afford protection, shall contain the name and address of the party or parties making the sale of such articles to such dealer, and in such case said party or parties shall be amenable to the prosecutions, fines, and other penalties which would attach, in due course, to the dealer under the provisions of this Act.

Sec. 10. That any article of food, drug, or liquor that is adulterated or misbranded within the meaning of this Act, and is being transported from one State, Territory, District, or insular possession to another for sale, or, having been transported, remains unloaded, unsold, or in original unbroken packages, or if it be sold or offered for sale in the District of Columbia or the Territories, or insular possessions of the United States, or if it be imported from a foreign country for sale, or if it is intended for export to a foreign country, shall be liable to be proceeded against in any district court of the United States within the district where the same is found, and seized for confiscation by a process of libel for condemnation. And if such article is condemned as being adulterated or misbranded, or of a poisonous or deleterious character, within the meaning of this Act, the same shall be disposed of by destruction or sale, as the said court may direct, and the proceeds thereof, if sold, less the legal costs and charges, shall be paid into the Treasury of the United States, but such goods shall not be sold in any jurisdiction contrary to the provisions of this Act or the laws of that jurisdiction: Provided, however, That upon the payment of the costs of such libel proceedings and the execution and delivery of a good and sufficient bond to the effect that such articles shall not be sold or

otherwise disposed of contrary to the provisions of this Act, or the laws of any State, Territory, District, or insular possession, the court may by order direct that such articles be delivered to the owner thereof. The proceedings of such libel cases shall conform, as near as may be, to the proceedings in admiralty, except that either party may demand trial by jury of any issue of fact joined in any such case, and all such proceedings shall be at the suit of and in the name of the United States.

Sec. 11. The Secretary of the Treasury shall deliver to the Secretary of Agriculture, upon his request from time to time, samples of foods and drugs which are being imported into the United States or offered for import, giving notice thereof to the owner or consignee, who may appear before the Secretary of Agriculture, and have the right to introduce testimony, and if it appear from the examination of such samples that any article of food or drug offered to be imported into the United States is adulterated or misbranded within the meaning of this Act, or is otherwise dangerous to the health of the people of the United States, or is of a kind forbidden entry into, or forbidden to be sold or restricted in sale in the country in which it is made or from which it is exported, or is otherwise falsely labeled in any respect, the said article shall be refused admission, and the Secretary of the Treasury shall refuse delivery to the consignee and shall cause the destruction of any goods refused delivery which shall not be exported by the consignee within three months from the date of notice of such refusal under such regulations as the Secretary of the Treasury may prescribe: Provided, That the Secretary of the Treasury may deliver to the consignee such goods pending examination and decision in the matter on execution of a penal bond for the amount of the full invoice value of such goods, together with the duty thereon, and on refusal to return such goods for any cause to the custody of the Secretary of the Treasury, when demanded, for the purpose of excluding them from the country, or for any other purpose, said consignee shall forfeit the full amount of the bond: And provided further, That all charges for storage, cartage, and labor on goods which are refused admission or delivery shall be paid by the owner or consignee, and in default of such payment shall constitute a lien against any future importation made by such owner or consignee.

Sec. 12. That the term "Territory" as used in this Act shall include the insular possessions of the United States. The word "person" as used in this Act shall be construed to import both the plural and the singular, as the case demands, and shall include corporations, companies, societies, and associations. When construing and enforcing the provisions of this Act, the act, omission, or failure of any officer, agent, or other person acting for or employed by any corporation, company, society, or association, within the scope of his employment or office, shall in every case be also deemed to be the act, omission, or failure of such corporation, company, society, or association as well as that of the person.

Sec. 13. That this Act shall be in force and effect from and after the first day of January, nineteen hundred and seven.

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WEEKLY RETURNS OF DEATHS FROM CITIES AND TOWNS OF MORE THAN 10,000 POPULATION.

Week ending Aug. 4, 1906.

CITIES AND TOWNS.	Population[1] Estimated for 1906.	Reported Deaths in Each.	Deaths under Five Years.	Deaths from—					
				Principal Infectious Diseases.	Acute Lung Diseases.	Phthisis.	Diphtheria.	Typhoid Fever.	Measles.
Boston,	602,528	238	94	66	15	26	9	1	1
Worcester,	130,171	50	32	20	1	5	2	–	–
Fall River,	105,943	54	33	24	4	2	–	–	–
Cambridge,	98,583	33	16	12	–	–	–	–	–
Lowell,	94,889	50	32	15	2	6	–	–	–
Lynn,	78,871	22	6	5	1	1	–	–	–
New Bedford,	77,006	36	21	13	3	1	–	–	–
Springfield,	76,255	23	15	12	1	3	1	–	1
Lawrence,	71,653	42	26	25	1	2	–	1	–
Somerville,	70,908	17	8	5	4	1	–	–	–
Holyoke,	50,824	23	14	13	1	2	–	1	–
Brockton,	49,511	7	–	1	–	–	–	–	–
Malden,	38,978	11	5	–	–	–	–	–	–
Salem,	37,970	24	10	5	2	–	–	–	–
Chelsea,	37,968	19	10	6	3	1	–	–	–
Haverhill,	37,962	7	3	2	–	–	–	–	–
Newton,	37,512	8	5	1	–	1	–	–	–
Fitchburg,	33,327	12	6	1	1	1	–	–	–
Taunton,	30,967	14	6	6	2	2	–	–	–
Everett,	30,173	8	4	2	–	–	–	–	–
Quincy,	28,995	10	4	–	–	–	–	–	–
Waltham,	26,881	8	2	–	–	–	–	–	–
Gloucester,	26,011	–	–	–	–	–	–	–	–
Pittsfield,	25,704	–	–	–	–	–	–	–	–
Brookline,	24,207	4	1	1	–	–	–	–	–
North Adams,	22,150	13	8	7	–	–	–	–	–
Chicopee,	20,402	7	4	4	–	1	–	–	–
Northampton,	20,175	7	5	3	–	–	–	–	–
Medford,	19,988	2	–	–	–	–	–	–	–
Beverly,	15,506	3	1	1	–	–	–	–	–
Hyde Park,	14,784	5	1	–	–	–	–	–	–
Newburyport,	14,715	2	–	1	1	1	–	–	–
Leominster,	14,712	3	–	1	–	1	–	–	–
Melrose,	14,578	–	–	–	–	–	–	–	–
Woburn,	14,432	3	1	–	–	–	–	–	–
Marlborough,	14,168	4	3	2	–	–	–	–	–
Westfield,	13,887	–	–	–	–	–	–	–	–
Peabody,	13,438	–	–	–	–	–	–	–	–
Revere,	13,168	4	3	2	–	–	–	–	–
Clinton,	13,105	3	0	–	–	–	–	–	–
Attleborough,	12,995	5	3	2	–	–	–	–	–
Adams,	12,775	5	3	2	–	–	–	–	–
Gardner,	12,267	–	–	–	–	–	–	–	–
Milford,	12,256	7	2	2	1	1	–	–	–
Weymouth,	11,638	–	–	–	–	–	–	–	–
Framingham,	11,598	3	1	–	–	–	–	–	–
Watertown,	11,597	4	2	–	–	–	–	–	–
Plymouth,	11,452	–	–	–	–	–	–	–	–
Southbridge,	11,206	3	1	1	–	–	–	–	–
Wakefield,	10,476	2	1	–	–	–	–	–	–
Webster,	10,280	–	–	–	–	–	–	–	–
Recapitulation.									
Total of reporting towns,	2,152,290	805	392	263	43	58	12	3	2

[1] The populations were estimated upon the rate of growth from 1900 to 1905. Those of Lowell, Taunton, Gloucester, North Adams and Clinton were allowed to stand as in 1905, having shown no increase during the five-year period.

WEEK ENDING AUG. 11, 1906.

CITIES AND TOWNS.	Population. Estimated for 1906.	Reported Deaths in Each.	Deaths under Five Years.	DEATHS FROM— Principal Infectious Diseases.	Acute Lung Diseases.	Phthisis.	Diphtheria.	Typhoid Fever.	Measles.
Boston,	602,528	237	104	60	4	17	2	1	–
Worcester,	130,171	53	27	13	1	4	–	–	–
Fall River,	105,943	38	19	24	–	2	2	–	–
Cambridge,	98,583	28	14	15	–	2	–	–	–
Lowell,	94,889	46	21	16	4	4	–	–	–
Lynn,	78,871	30	10	8	1	2	–	–	–
New Bedford,	77,006	30	14	15	2	4	1	1	–
Springfield,	76,255	22	12	7	–	–	–	–	–
Lawrence,	71,653	41	24	21	2	2	1	–	–
Somerville,	70,908	18	5	2	1	1	–	–	–
Holyoke,	50,824	29	17	13	–	2	–	–	–
Brockton,	49,511	12	1	3	2	1	–	–	–
Malden,	38,978	13	6	–	–	–	–	–	–
Salem,	37,970	27	11	6	–	1	–	–	–
Chelsea,	37,968	16	5	1	2	–	–	–	–
Haverhill,	37,962	9	4	4	–	2	–	–	–
Newton,	37,512	7	1	4	–	–	2	–	1
Fitchburg,	33,327	13	7	–	–	–	–	–	–
Taunton,	30,967	17	10	6	–	–	–	–	–
Everett,	30,173	6	2	2	–	–	–	–	–
Quincy,	28,995	9	6	5	–	1	1	–	–
Waltham,	26,881	8	4	–	1	–	–	–	–
Gloucester,	26,011	7	3	1	–	–	–	–	–
Pittsfield,	25,704	6	3	1	–	–	–	–	–
Brookline,	24,207	1	–	–	–	–	–	–	–
North Adams,	22,150	5	1	2	–	1	–	–	–
Chicopee,	20,402	13	9	6	–	–	–	–	–
Northampton,	20,175	4	1	1	–	–	1	–	–
Medford,	19,988	8	2	4	–	4	–	–	–
Beverly,	15,506	2	1	2	–	1	–	–	–
Hyde Park,	14,784	4	2	1	–	1	–	–	–
Newburyport,	14,715	4	–	2	–	–	–	–	–
Leominster,	14,712	4	2	2	–	–	1	–	–
Melrose,	14,578	7	1	1	–	–	–	–	–
Woburn,	14,432	6	4	3	–	–	–	–	–
Marlborough,	14,168	1	1	–	–	–	–	–	–
Westfield,	13,887	–	–	–	–	–	–	–	–
Peabody,	13,438	–	–	–	–	–	–	–	–
Revere,	13,168	6	3	–	–	–	–	–	–
Clinton,	13,105	5	1	–	–	–	–	–	–
Attleborough,	12,995	1	0	–	–	–	–	–	–
Adams,	12,775	–	–	–	–	–	–	–	–
Gardner,	12,267	–	–	–	–	–	–	–	–
Milford,	12,256	10	2	2	1	2	–	–	–
Weymouth,	11,638	–	–	–	–	–	–	–	–
Framingham,	11,598	3	2	–	–	–	–	–	–
Watertown,	11,597	1	0	–	–	–	–	–	–
Plymouth,	11,452	–	–	–	–	–	–	–	–
Southbridge,	11,206	2	2	1	–	–	–	–	–
Wakefield,	10,476	2	–	1	–	–	–	–	–
Webster,	10,280	–	–	–	–	–	–	–	–
Recapitulation.									
Total of reporting towns,	2,205,808	811	364	255	21	54	11	2	1

WEEK ENDING AUG. 18, 1906.

CITIES AND TOWNS.	Population. Estimated for 1906.	Reported Deaths in Each.	Deaths under Five Years.	DEATHS FROM—					
				Principal Infectious Diseases.	Acute Lung Diseases.	Phthisis.	Diphtheria.	Typhoid Fever.	Measles.
Boston,	602,528	228	106	97	16	21	3	2	–
Worcester,	130,171	60	33	13	2	5	–	2	–
Fall River,	105,943	33	23	17	2	–	–	–	–
Cambridge,	98,583	21	9	4	2	2	–	–	–
Lowell,	94,889	38	20	18	1	1	–	–	–
Lynn,	78,871	15	5	2	1	–	–	–	–
New Bedford,	77,006	26	14	13	1	–	–	–	–
Springfield,	76,255	17	5	5	2	–	1	1	–
Lawrence,	71,653	29	16	14	3	1	–	–	–
Somerville,	70,908	18	7	8	–	2	–	–	–
Holyoke,	50,824	22	8	7	–	2	–	–	–
Brockton,	49,511	7	2	1	–	–	–	–	–
Malden,	38,978	11	4	2	–	–	–	–	–
Salem,	37,970	18	6	3	–	–	–	1	–
Chelsea,	37,968	15	1	3	–	3	–	–	–
Haverhill,	37,962	5	1	1	–	1	–	–	–
Newton,	37,512	7	1	1	–	1	–	–	–
Fitchburg,	33,327	13	11	–	–	–	–	–	–
Taunton,	30,967	15	5	6	1	–	–	–	–
Everett,	30,173	7	2	1	–	–	–	–	–
Quincy,	28,995	10	5	4	1	1	–	–	–
Waltham,	26,881	5	1	1	–	–	–	–	–
Gloucester,	26,011	12	3	1	–	–	1	–	–
Pittsfield,	25,704	5	1	1	1	–	–	–	–
Brookline,	24,207	5	1	–	1	–	–	–	–
North Adams,	22,150	9	4	4	–	1	–	–	–
Chicopee,	20,402	7	6	5	1	–	–	–	–
Northampton,	20,175	8	1	1	–	1	–	–	–
Medford,	19,988	2	1	1	–	1	–	–	–
Beverly,	15,506	4	2	2	–	–	–	–	–
Hyde Park,	14,784	8	8	4	–	–	–	–	–
Newburyport,	14,715	3	–	–	–	–	–	–	–
Leominster,	14,712	–	–	–	–	–	–	–	–
Melrose,	14,578	1	1	–	–	–	–	–	–
Woburn,	14,432	8	3	3	–	1	–	–	–
Marlborough,	14,168	3	1	–	–	–	–	–	–
Westfield,	13,887	–	–	–	–	–	–	–	–
Peabody,	13,438	–	–	–	–	–	–	–	–
Revere,	13,168	4	1	1	–	1	–	–	–
Clinton,	13,105	2	0	–	–	–	–	–	–
Attleborough,	12,995	0	–	–	–	–	–	–	–
Adams,	12,775	4	4	3	–	–	–	–	–
Gardner,	12,267	–	–	–	–	–	–	–	–
Milford,	12,256	8	2	2	–	–	–	–	–
Weymouth,	11,638	3	0	–	–	–	–	–	–
Framingham,	11,598	1	1	–	–	–	–	–	–
Watertown,	11,597	2	2	1	–	–	1	–	–
Plymouth,	11,452	–	–	–	–	–	–	–	–
Southbridge,	11,206	1	1	1	–	–	–	–	–
Wakefield,	10,476	6	–	5	–	3	–	–	–
Webster,	10,280	–	–	–	–	–	–	–	–

Recapitulation.

Total of reporting towns,	2,215,509	726	328	256	35	48	6	6	0

WEEK ENDING AUG. 25, 1906.

CITIES AND TOWNS.	Population. Estimated for 1906.	Reported Deaths in Each.	Deaths under Five Years.	DEATHS FROM— Principal Infectious Diseases.	Acute Lung Diseases.	Phthisis.	Diphtheria.	Typhoid Fever.	Measles
Boston,	602,528	227	94	88	10	17	1	4	–
Worcester,	130,171	59	25	11	1	3	2	1	–
Fall River,	105,943	42	26	25	1	2	–	–	–
Cambridge,	98,583	18	9	6	–	2	–	–	–
Lowell,	94,889	46	22	16	2	2	1	1	–
Lynn,	78,871	26	–	5	3	1	–	–	–
New Bedford,	77,006	23	17	15	–	1	–	–	–
Springfield,	76,255	22	8	5	–	–	–	–	–
Lawrence,	71,653	27	19	18	1	2	–	1	–
Somerville,	70,908	25	10	9	–	5	–	–	–
Holyoke,	50,824	15	12	5	1	–	2	–	–
Brockton,	49,511	10	5	–	–	–	–	–	–
Malden,	38,978	10	5	2	–	–	1	–	–
Salem,	37,970	12	6	5	–	–	–	–	–
Chelsea,	37,968	7	1	1	–	–	–	–	–
Haverhill,	37,962	17	11	7	1	1	–	–	–
Newton,	37,512	4	1	1	–	1	–	–	–
Fitchburg,	33,327	–	–	–	–	–	–	–	–
Taunton,	30,967	19	12	10	1	1	–	–	–
Everett,	30,173	14	7	2	–	1	–	–	–
Quincy,	28,995	14	8	7	1	1	–	–	–
Waltham,	26,881	6	1	1	–	–	1	–	–
Gloucester,	26,011	8	4	–	–	–	–	–	–
Pittsfield,	25,704	5	–	2	–	1	–	1	–
Brookline,	24,207	8	1	1	–	–	–	–	–
North Adams,	22,150	11	5	–	–	–	–	–	–
Chicopee,	20,402	11	6	4	–	–	–	–	–
Northampton,	20,175	7	3	–	–	–	–	–	–
Medford,	19,988	4	1	1	–	1	–	–	–
Beverly,	15,506	5	3	2	–	–	–	–	–
Hyde Park,	14,784	7	3	1	–	–	–	–	–
Newburyport,	14,715	–	–	–	–	–	–	–	–
Leominster,	14,712	4	–	1	–	–	–	–	–
Melrose,	14,578	–	–	–	–	–	–	–	–
Woburn,	14,432	6	1	2	–	2	–	–	–
Marlborough,	14,168	1	0	–	–	–	–	–	–
Westfield,	13,887	–	–	–	–	–	–	–	–
Peabody,	13,438	–	–	–	–	–	–	–	–
Revere,	13,168	4	–	1	–	1	–	–	–
Clinton,	13,105	0	–	–	–	–	–	–	–
Attleborough,	12,995	3	2	1	–	–	–	–	–
Adams,	12,775	6	3	2	–	2	–	–	–
Gardner,	12,267	–	–	–	–	–	–	–	–
Milford,	12,256	2	–	1	–	1	–	–	–
Weymouth,	11,638	5	1	–	–	–	–	–	–
Framingham,	11,598	2	1	–	–	–	–	–	–
Watertown,	11,597	3	2	1	–	–	–	–	–
Plymouth,	11,452	–	–	–	–	–	–	–	–
Southbridge,	11,206	–	–	–	–	–	–	–	–
Wakefield,	10,476	–	–	–	–	–	–	–	–
Webster,	10,280	–	–	–	–	–	–	–	–

Recapitulation.

Total of reporting towns,	2,145,919	745	335	259	22	48	8	8	0

WEEKLY RETURNS OF DEATHS FROM CERTAIN INFECTIOUS DISEASES.

DEATHS FROM INFECTIOUS DISEASES NOT SPECIFICALLY MENTIONED IN ABOVE TABLES DURING THE WEEKS OF AUG. 4, 11, 18 AND 25, 1906.

DISEASE.	Place.	WEEK ENDING—			
		Aug. 4.	Aug. 11.	Aug. 18.	Aug. 25.
Cerebro-spinal meningitis,	Boston,	3	2	–	2
	Cambridge,	–	1	–	–
	Fall River,	–	–	–	2
	Gloucester,	–	1	–	–
	Hyde Park,	–	–	–	1
	Lawrence,	–	2	–	–
	Lowell,	1	–	–	–
	Somerville,	–	–	1	–
	Taunton,	–	–	–	1
	Worcester,	1	–	–	–
Scarlet fever,	Boston,	1	1	–	–
	Holyoke,	1	–	–	–
	Newton,	–	1	–	–
Erysipelas,	Boston,	–	–	–	1
	Cambridge,	–	1	–	–
	Lawrence,	1	–	–	–
Whooping-cough,	Beverly,	–	–	1	–
	Boston,	7	4	4	3
	Cambridge,	3	1	–	2
	Chicopee,	–	–	1	–
	Chelsea,	2	1	–	–
	Everett,	1	–	–	–
	Fall River,	1	–	2	–
	Holyoke,	–	2	–	–
	Lawrence,	–	1	–	1
	Malden,	–	–	–	1
	Milford,	1	–	–	–
	New Bedford,	1	–	–	–
	Newburyport,	–	1	–	–
	Salem,	2	2	–	–
	Somerville,	1	1	–	–
	Taunton,	–	–	–	1
Malarial fever,	Chelsea,	–	–	–	1
	Lynn,	1	–	–	–

WEEKLY RETURNS OF CASES OF INFECTIOUS DISEASES.

CASES OF INFECTIOUS DISEASES REPORTED DURING THE WEEKS OF AUG. 4, 11, 18 AND 25, 1906.

[Under the provisions of section 52 of chapter 75 of the Revised Laws.]

	Week ending—			
	Aug. 4.	Aug. 11.	Aug. 18.	Aug. 25.
Diphtheria,	63	105	92	138
Measles,	31	32	24	9
Scarlet fever,	44	59	41	38
Typhoid fever,	36	76	68	92
Tuberculosis,	54	59	44	54
Cerebro-spinal meningitis,	6	3	5	4
Smallpox,	–	–	–	–
Erysipelas,	1	–	–	–

MONTHLY REPORT ON INSPECTION OF FOOD AND DRUGS.

The following summary presents the results of the examinations of food and drugs made by the State Board of Health during the month of August, 1906: —

Articles examined.	Number found to be of Good Quality.	Number adulterated or varying from the Legal Standard.	Total.	Articles examined.	Number found to be of Good Quality.	Number adulterated or varying from the Legal Standard.	Total.
Milk,	240	71	311	Non-alcoholic drinks,	7	–	7
Butter,	3	–	3	Maple syrup,	1	–	1
Clams,	1	–	1	Meats and meat products,	12	–	12
Cocoa,	2	–	2	Pickles,	6	1	7
Coffee,	1	–	1	Salad dressing,	4	1	5
Confectionery,	2	–	2	Spices,	11	1	12
Condensed milk,	4	2	6	Syrups,	3	–	3
Cream,	3	–	3	Table sauces,	4	–	4
Cream of tartar,	5	–	5	Vinegar,	33	12	45
Flavoring extracts,	4	–	4	Drugs,	86	21	107
Grape juice,	1	1	2				
Honey,	1	–	1	Total,	451	111	562
Jams and jellies,	13	1	14				
Malt liquors,	4	–	4				

The samples of drugs found to be adulterated were: alcohol, aqua hamamelidis spirituosa, oleum limonis, oleum ricini, sodii boras and tinctura iodi.

The cities and towns in which samples were collected were: Attleborough, Avon, Adams, Boston, Brockton, Cambridge, Chelsea, Dedham, Everett, Framingham, Haverhill, Holyoke, Lawrence, Lowell, Lynn, Methuen, Middleborough, North Adams, North Andover, North Brookfield, Newton, Needham, Onset, Peabody, Provincetown, Quincy, Revere, Rockport, Salem, Somerville, Spencer, Springfield, Taunton, Waltham, Wayland and Weymouth.

PROSECUTIONS FOR VIOLATIONS OF THE LAW RELATING TO FOOD AND DRUGS.

Eleven convictions were secured during the month of August, 1906, for selling adulterated food and drugs, as follows: —

No.	Name of Defendant.	Place.	Character of Article sold.
1	George H. Malley,	Boston,	Tincture iodine.
2	Roscoe A. Smith,	Boston,	Witch hazel.
3	James McCarthey,	Boston,	Witch hazel.
4	George R. Hinkley,	Brookline,	Witch hazel.
5	William E. Ralton	Lawrence,	Milk.
6	Patrick J. Twomey,	Methuen,	Milk.
7	Jesse M. James,	North Brookfield,	Milk.
8	Jesse M. James,	North Brookfield,	Milk.
9	Condon & McAuliffe,	Salem,	Ale.
10	Nelson Marlowe,	North Adams,	Milk.
11	John Smith,	Ware,	Milk.

LIST OF ADULTERATED FOOD, ETC., FOR AUGUST, 1906.

Number of Sample.	Character of Sample.	Brand, or Name of Manufacturer, Wholesaler or Producer.	Results of Analyses.
1862	Milk,	Jesse M. James, North Brookfield,	Solids, 9.06 per cent.; contained added water.
1863	Milk,		Solids, 8.24 per cent.; contained added water.
1864	Milk,		Solids, 8.80 per cent.; contained added water.
1897	Milk.	J. A. C. Ludemann, Revere,	Solids, 8.87 per cent.; contained added water.
1472	Sweet pickles,	Cruikshanks Bros. Company, Pittsburg, Pa.,	Preserved with benzoic acid.
2014	Mayonaise "Made from Pure Lucca."	R. S. Fielding & Co., Haverhill,	Made from cotton-seed oil.
1899	Royal standard mace,	Knickerbocker Mills Company, N. Y.,	Admixture of wild mace.
5509 N,	Witch hazel extract,	Frank E. Harris, Binghamton, N. Y.,	9.54 per cent. alcohol; contained formaldehyde.
1918	Witch hazel extract,	C. S. Stearns, North Andover,	10.00 per cent. alcohol; contained formaldehyde.
1917	Witch hazel extract,	Geo. H. Perkins, North Andover,	9.04 per cent. alcohol; contained formaldehyde.
1904	Witch hazel extract,	G. W. Russell, North Adams,	7.00 per cent. alcohol; contained formaldehyde.
1900	Witch hazel extract,	T. C. Farley, North Adams,	10.92 per cent. alcohol; contained formaldehyde.
1890	Witch hazel extract,	W. A. Little & Co., Boston,	6.64 per cent. alcohol; contained formaldehyde.
1944	Witch hazel extract,	Thomas B. Nichols, Salem,	8.14 per cent. alcohol; contained formaldehyde.
5487 N,	Witch hazel extract,	Cleveland Pharmacy, Holyoke,	9.57 per cent. alcohol; contained formaldehyde.
1776	Purity castor oil,	Lilly Brand,	40 per cent. cotton seed oil.
1716 M,	Crescent brand borax,	Chas. L. Hirsch & Co., New York,	No borax; sample consists of sodium bicarbonate.

INSPECTION OF DAIRIES.

During the month of August, 1906, 234 dairies were examined in the following places: —

Place.	Number examined.	Number found to present no Objectionable Features.	Per Cent.	Number to which Letters were sent.	Per Cent.
Andover,	16	10	62.50	6	37.50
Groveland,	16	9	56.25	7	43.75
Haverhill,	159	102	64.15	57	35.85
North Andover,	43	28	65.12	15	34.88

Total number of dairies examined,	234
Number found free from objectionable conditions,	149
Number to which letters were sent,	85
Total number of conditions to which attention was called,	318
Percentage of dairies which passed inspection,	63.67

This is the most favorable showing since the work of inspection began.

The names of the owners of the dairies found to be worthy of commendation follow: —

Andover.

Andover Town Farm.
Higgins, William H.
Jameson, Charles.
Jenkins, A.
McGovern, James.
Newton, Charles.
Pearson Bros.
Phelps, George.
Smith, Frank P.
Smith, Peter.

Groveland.

Balch, F.
Day, R. B.
Hardy, Lawrence.
Harriman, F.
Hefferan, John.
Knox, George B.
Nichols, Elsworth.
Parker, F. P.
Snell, Thomas.

Haverhill.

Appleton, D.
Atwood, Frank.
Bailey, John.
Barnes, B. F.
Bartlett, J. M.
Batchelder, Thomas.
Bisby, C. F.
Blessington, Thomas.
Boardman, A. H.
Boucher, Rev. C.
Brickett, A. N.
Buttrick, A. W.
Callahan, Calvin.
Chadwick, James.
Cheever, S. L.
Christensen, Chris.
Cogswell, Doane.
Coti, Vila W.
Courtney, Ellis.
Cunningham, Charles.
Davis, James.
Day, G. E.
Dixon, W. H.
Dolliver, Rev. J. M.
Dominica, Aleca.
Dorothy, Rev. T.
Ela, Munroe.
Emerson, Charles.
Emerson, Rufus.
Fellows, J.
Fernald, Frank.
Gillman, S.
Gleason, Chauncey.
Graves, J. W.
Hardy, Charles.
Harndon, Otis.
Haselton, Charles.
Hasetine, N.
Haverhill City Farm.

Haynes, J.
Hazelton, S.
Hazelwood, T. F.
Horne, L. H.
Hussey, John.
Ingersoll, H. G.
Johnson, Horace.
Jones, Albert.
Kimball, Ezra.
Kimball, Fred.
Kimball, John H.
Labaroni, Ceci.
Lovely, A. J.
Ludwig, Samuel.
Lynch, Patrick.
McClellan, P. W.
McCormick, Jerry.
Mace, Daniel.
McElroy, John.
McMillan, Cyrus.
Marble, Isaac.
Marcott, S. L.
Marsh, Mrs. Nathan.
Marshall, C. F.
Merithew, J.
Merrill, James.
Merrill, L. N.
Merrill, W. E.
Mills, George.
Morse, Henry.
Morse, L. K.
Moses, O. E.
Nelson, Adelbert.
Nelson, John.
Oakley, John.
Page, E.
Peabody, C. N., estate.
Pettingell, F. H.
Poor, C. H.
Poor, H. A.
Proulx, John
Ray, P. N.
Reed, F. M.
Robinson, Samel.
Ryan, Patrick.
Saroni, Ceri.
Savignac, Charles, estate.
Sawyer, J. B.
Silsby, Edw.
Small, Warren.
Smith, Hiram.
Spencer, Charles.
Spore, Fred.
Stewart, Warren A.
Streeter, Frank.
Tobie, S.
Walker, C. H.
Warburton, C. R.
Webster, H. W., estate.
Webster, Ira.
West, Frank.
Whitaker, S.
White, William.

North Andover.

Baker, Ernest.
Boyce, W. C.
Bragdon, G. C.
Carney, M.
Cheever, Charles.
Ellis, Frank.
Farnham, Benjamin H.
Farnham, Charles.
Farnham, Holt.
Farnham, Loring T.
Foss, A. C.
Goodhue, Frank.
Greene, E. W.
Hayes, W. H.
Holt, L. H.
Kunnart, George.
Long, Henry.
Moody, E. W.
Newhall, Charles R.
North Andover Town Farm.
Poor, James S.
Rea, Calvin.
Rea, Orris.
Schofield, George.
Stevens, Oliver, estate.
Sutton, William.
Tucker, Edgar.
Tucker, George W.

EXAMINATION OF BAKERIES AND CONFECTIONERY AND CATERING ESTABLISHMENTS.

During the past few months 536 bakeries and confectionery and catering establishments in 25 cities and 3 towns have been visited by agents of the Board, and the conditions under which their products are prepared have been noted. According to the conditions observed, these establishments (chiefly bakeries) may be divided into four classes, as follows: —

A. Worthy of especial commendation.
B. Satisfactory.
C. Not especially bad.
D. Distinctly bad.

Many of Class D are situated in badly lighted, unventilated basements, some with water-closets either in the workroom itself or so placed as to

make the air thereof distinctly foul. In one instance the bakeroom contained a bed with dirty bed clothes, filthy wearing apparel, and a dark, foul-smelling water-closet within a few feet of the oven, implements and food materials. A large proportion of the establishments of this class call for energetic action on the part of local authorities, and should be closed.

The following table shows the number examined in each place, and their classification: —

Place.	Number visited.	A.	B.	C.	D.
Attleborough,	4	–	–	3	1
Boston,	156	6	11	85	54
Brockton,	7	–	1	3	3
Cambridge,	41	1	6	18	16
Chelsea,	10	–	2	4	4
Chicopee,	6	–	–	2	4
Clinton,	8	–	–	–	8
Fall River,	20	–	–	7	13
Fitchburg,	10	–	–	3	7
Framingham,	4	–	–	–	4
Gloucester,	7	–	–	4	3
Haverhill,	4	–	1	1	2
Holyoke,	22	–	1	8	13
Lawrence,	28	–	1	12	15
Lowell,	25	–	–	23	2
Lynn,	23	1	1	11	10
Malden,	10	–	2	3	5
Medford,	4	–	–	2	2
New Bedford,	19	–	–	9	10
Newburyport,	15	–	2	3	10
Quincy,	5	–	–	–	5
Salem,	18	1	2	8	7
Somerville,	20	–	–	6	14
Springfield,	15	1	1	4	9
Taunton,	4	1	–	1	2
Waltham,	8	1	2	3	2
Woburn,	4	–	–	1	3
Worcester,	39	1	8	11	19
Total,	536	13	41	235	247

In order to warrant classification under A or B, the following requirements must be met: —

1. The size of the room is such that there is sufficient air space per capita.
2. There are windows enough to secure good light. Artificial light is not needed during the day time.
3. Ventilation is adequate.
4. The situation of the room is not below the street level.
5. Everything is open, and easily inspected.
6. The floor is properly constructed, without large cracks.
7. The floor is clean.

8. The ceiling and walls are clean.

9. Tables and troughs are clean, and so arranged (preferably portable) that the floor beneath may at all times be kept clean.

10. The sink and its surroundings are clean and wholesome, free from decayed wood and decomposed vegetable matter.

11. There is no water-closet in or connected with the bakeroom; it is distinctly apart and away from the bakeroom or any room where food products are kept.

While it would appear just and proper to publish the names of the proprietors of the establishments found to be worthy of classification under A and B, many equally deserving may have been overlooked in the cities and towns visited, and thus might suffer through inferential classification under C and D. Therefore, for the present, at least, the names will be withheld. Full details of the examination will form part of the report on industrial conditions to be submitted to the Legislature of 1907.

AN OUTBREAK OF DIPHTHERIA IN STOCKBRIDGE.

During July and August, 21 cases of diphtheria, chiefly in children, were reported in Stockbridge, in that portion of the town known as the Furnace District, a community of 15 dwelling-houses, to 9 of which the cases were confined.

An investigation made by an agent of the State Board of Health, at the request of the local board, shows that the spread of the contagion was undoubtedly due to the premature release from quarantine of patients who were not yet free from diphtheria bacilli. In proof of this is the fact that in at least 5 instances another member of the same household was taken sick within a few days after a patient had been released from quarantine and allowed to mingle freely with his family.

The outbreak clearly demonstrates the importance of continuing quarantine upon patients with diphtheria, until it is certain that they are no longer capable of conveying infection to others. In this instance, the patients were released as soon as their throats appeared to the eye to be normal, and this was after an interval of from eight to twenty-one days subsequent to the onset of the disease.

There is no method of determining with certainty when a convalescent patient is free from the diphtheria bacilli other than bacteriological examination of the throat, and, in some instances, of the nose. To make release from quarantine conditional upon a negative report of such

examination is by far the most effectual method which can be adopted by the health authorities of cities and towns for the prevention of the spread of this disease.

INVESTIGATION OF A TYPHOID FEVER OUTBREAK IN LYNN.

In response to a request from the board of health of Lynn for assistance in investigating the cause of an outbreak of typhoid fever, the State Board of Health sent a representative to that city, who spent several days in making a thorough investigation.

During July, August and the first few days of September nearly 50 cases of typhoid fever were reported to the local board of health. Eight of these cases occurred between July 10 and August 4, and they were so distributed both geographically and in point of time as to cause no special comment. Between August 4 and August 15 no cases were reported, but between August 15 and August 29, a period of two weeks, 37 persons were stricken with the disease; and between August 29 and September 4, 3 more cases were reported. The explosive character of the outbreak is thus clearly marked, and the time of its occurrence points to the early part of the month as the period within which the infection was spread.

A majority of the victims live in the easterly part of the city, within a district bounded by Western Avenue, the Swampscott line, Essex Street and Franklin Street. Seven live in the westerly part of the city, 5 in the southerly and 2 near the westerly end of Flax Pond. Of the 33 persons living in the district first named, all but 4 were taken sick within the last two weeks of August. Three were taken sick in July, all being of one family, and 2 of the cases were undoubtedly of secondary origin. Of the 15 persons who live elsewhere than in this district, 3 were taken sick in July, 2 early in August and 2 during the first few days of September.

It appears, then, that about 75 per cent. of all of the cases reported were taken sick during the latter half of August.

In 6 instances 2 or more of the same household were affected. In 3 of these the time relation between earlier and later cases was such as to render it probable that the later cases were secondary. The number of such secondary cases is 5. In 3 households in which more than one case occurred, the persons affected were all taken sick at about the same time.

The number of such multiple cases is 7. In but 4 instances is it at all probable that infection was acquired outside the city.

Age Periods. — The persons affected fall within the various age periods as follows: —

Under five years,	3	Twenty-one to thirty years,	12
Six to ten years,	6	Thirty-one to forty years,	9
Eleven to fifteen years,	9	Forty-one to fifty years,	2
Sixteen to twenty years,	6	Over fifty years,	1

Water Supply. — All of the patients had access to or regularly used city water; but, inasmuch as the explosion was limited geographically, there is nothing to implicate the water supply.

Milk Supply. — The milk supply of the patients was furnished by several different dealers. Of the persons seized after August 14, 40 in number, 31, or 77 per cent., were supplied by one milkman, H. The remaining households were supplied by separate dealers. Of the 8 cases reported prior to August 15, the date of the beginning of the explosive outbreak, none received milk from the dealer above referred to. An investigation of all the dairies from which this particular milk supply was derived showed that upon none of them was any sickness present, and that it was wholly improbable that any infection could have originated there. Upon further inquiry, it was learned that among the persons reported sick in August was a young man who was admitted to the Lynn Hospital on August 28. At the time of admission he was doubtless well advanced in the disease, his temperature showing wide oscillation. According to his statement, he was employed by the milk dealer H. for a period of two or three weeks, his employment ending about August 10, and he began to feel sick during the following week. While with the milk dealer H. his duties included the washing of milk bottles.

The facts revealed in this investigation lead to the conclusion that the explosive outbreak which attracted the attention of the local authorities was due to milk supplied by the milkman H., and that the said milk received its infection upon H.'s premises, and not upon the premises of any of the producers. The cause of the infection in the other cases is not determined, but they are not more numerous than are likely to be found in a population of equal size at this period of the year, and, had it not been for the occurrence of the milk-borne cases, it is improbable that they would have attracted special attention.

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STATE BOARD OF HEALTH

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WEEKLY RETURNS OF DEATHS FROM CITIES AND TOWNS OF MORE THAN 10,000 POPULATION.

Week ending Sept. 1, 1906.

Cities and Towns.	Population.[1] Estimated for 1906.	Reported Deaths in Each.	Deaths under Five Years.	Deaths from—					
				Principal Infectious Diseases.	Acute Lung Diseases.	Phthisis.	Diphtheria.	Typhoid Fever.	Measles.
Boston,	602,528	227	84	78	15	23	1	5	1
Worcester,	130,171	59	32	14	1	5	3	–	–
Fall River,	105,943	41	27	8	3	2	–	–	–
Cambridge,	98,583	23	8	11	2	4	–	–	–
Lowell,	94,889	27	14	6	4	2	–	–	–
Lynn,	78,871	18	9	8	–	3	–	–	–
New Bedford,	77,006	31	17	15	1	–	–	–	–
Springfield,	76,255	30	16	12	3	1	–	–	1
Lawrence,	71,653	24	10	8	2	1	2	–	–
Somerville,	70,908	21	5	6	–	1	–	1	–
Holyoke,	50,824	23	14	10	1	1	2	–	–
Brockton,	49,511	9	3	1	–	–	–	1	–
Malden,	38,978	11	2	2	1	–	–	1	–
Salem,	37,970	18	4	7	–	5	–	–	–
Chelsea,	37,968	11	3	–	–	–	–	–	–
Haverhill,	37,962	18	9	9	–	2	–	1	–
Newton,	37,512	10	4	2	–	–	–	–	–
Fitchburg,	33,327	12	6	3	–	–	–	–	–
Taunton,	30,967	–	–	–	–	–	–	–	–
Everett,	30,173	6	1	–	–	–	–	–	–
Quincy,	28,995	10	6	5	–	–	–	–	–
Waltham,	26,881	6	–	3	–	1	–	2	–
Gloucester,	26,011	6	4	–	–	–	–	–	–
Pittsfield,	25,704	9	2	4	–	1	–	–	–
Brookline,	24,207	5	–	1	–	1	–	–	–
North Adams,	22,150	4	3	2	–	–	–	–	–
Chicopee,	20,402	10	7	4	–	–	–	–	–
Northampton,	20,175	9	4	–	–	–	–	–	–
Medford,	19,988	7	2	3	–	–	–	–	–
Beverly,	15,506	3	–	–	–	–	–	–	–
Hyde Park,	14,784	4	3	–	–	–	–	–	–
Newburyport,	14,715	5	2	1	–	1	–	–	–
Leominster,	14,712	–	–	–	–	–	–	–	–
Melrose,	14,578	6	1	–	–	–	–	–	–
Woburn,	14,432	5	1	1	1	–	–	–	–
Marlborough,	14,168	5	4	2	–	–	–	–	–
Westfield,	13,887	–	–	–	–	–	–	–	–
Peabody,	13,438	–	–	–	–	–	–	–	–
Revere,	13,168	4	0	3	–	1	1	1	–
Clinton,	13,105	1	0	–	–	–	–	–	–
Attleborough,	12,995	7	5	3	–	1	–	–	–
Adams,	12,775	5	–	2	1	–	–	–	–
Gardner,	12,267	–	–	–	–	–	–	–	–
Milford,	12,256	7	1	2	1	–	–	–	–
Weymouth,	11,638	4	2	–	–	–	–	–	–
Framingham,	11,598	–	–	–	–	–	–	–	–
Watertown,	11,597	2	2	–	–	–	–	–	–
Plymouth,	11,452	–	–	–	–	–	–	–	–
Southbridge,	11,206	4	2	1	–	–	–	–	–
Wakefield,	10,476	5	–	3	–	–	–	–	–
Webster,	10,280	–	–	–	–	–	–	–	–
Recapitulation.									
Total of reporting towns,	2,172,944	752	319	240	36	56	9	12	2

[1] The populations were estimated upon the rate of growth from 1900 to 1905. Those of Lowell, Taunton, Gloucester, North Adams and Clinton were allowed to stand as in 1905, having shown no increase during the five-year period.

WEEK ENDING SEPT. 8, 1906.

CITIES AND TOWNS.	Population. Estimated for 1906.	Reported Deaths in Each.	Deaths under Five Years.	DEATHS FROM —					
				Principal Infectious Diseases.	Acute Lung Diseases.	Phthisis.	Diphtheria.	Typhoid Fever.	Measles.
Boston,	602,528	228	96	23	15	15	1	5	–
Worcester,	130,171	43	15	14	1	6	4	–	–
Fall River,	105,943	44	27	18	3	3	–	–	–
Cambridge,	98,583	20	9	9	2	4	1	–	–
Lowell,	94,889	42	20	11	4	6	2	–	–
Lynn,	78,871	21	6	3	–	–	–	–	–
New Bedford,	77,006	33	19	13	2	2	–	–	–
Springfield,	76,255	23	4	7	1	–	1	2	–
Lawrence,	71,653	30	14	12	1	2	–	–	–
Somerville,	70,908	30	11	8	–	2	–	–	–
Holyoke,	50,824	10	6	5	–	2	–	–	–
Brockton,	49,511	10	1	1	1	–	–	1	–
Malden,	38,978	10	3	2	–	–	–	–	–
Salem,	37,970	15	6	–	1	–	–	–	–
Chelsea,	37,968	12	2	1	–	–	–	–	–
Haverhill,	37,962	11	4	5	–	1	–	3	–
Newton,	37,512	10	5	–	–	–	–	–	–
Fitchburg,	33,327	–	–	–	–	–	–	–	–
Taunton,	30,967	18	5	6	–	1	–	1	–
Everett,	30,173	5	3	2	–	–	–	–	–
Quincy,	28,995	9	5	3	–	–	–	–	–
Waltham,	26,881	8	–	4	1	2	–	2	–
Gloucester,	26,011	–	–	–	–	–	–	–	–
Pittsfield,	25,704	–	–	–	–	–	–	–	–
Brookline,	24,207	6	1	–	–	–	–	–	–
North Adams,	22,150	7	2	1	–	1	–	–	–
Chicopee,	20,402	8	6	5	1	2	–	–	–
Northampton,	20,175	6	1	1	–	–	–	–	–
Medford,	19,988	7	1	1	–	1	–	–	–
Beverly,	15,506	5	1	–	–	–	–	–	–
Hyde Park,	14,784	3	1	–	–	–	–	–	–
Newburyport,	14,715	–	–	–	–	–	–	–	–
Leominster,	14,712	6	1	1	–	1	–	–	–
Melrose,	14,578	3	0	–	–	–	–	–	–
Woburn,	14,432	3	1	1	–	1	–	–	–
Marlborough,	14,168	7	4	3	–	1	–	–	–
Westfield,	13,887	–	–	–	–	–	–	–	–
Peabody,	13,438	–	–	–	–	–	–	–	–
Revere,	13,168	5	4	1	–	–	–	–	–
Clinton,	13,105	4	1	–	–	–	–	–	–
Attleborough,	12,995	5	2	3	1	1	–	–	–
Adams,	12,775	4	2	1	–	1	–	–	–
Gardner,	12,267	–	–	–	–	–	–	–	–
Milford,	12,256	–	–	–	–	–	–	–	–
Weymouth,	11,638	5	2	–	–	–	–	–	–
Framingham,	11,598	5	2	1	–	1	–	–	–
Watertown,	11,597	3	1	–	–	–	–	–	–
Plymouth,	11,452	–	–	–	–	–	–	–	–
Southbridge,	11,206	1	–	–	–	–	–	–	–
Wakefield,	10,476	–	–	–	–	–	–	–	–
Webster,	10,280	–	–	–	–	–	–	–	–

Recapitulation.

Total of reporting towns,	2,107,732	725	294	166	34	55	9	14	–

WEEK ENDING SEPT. 15, 1906.

CITIES AND TOWNS.	Population. Estimated for 1906.	Reported Deaths in Each.	Deaths under Five Years.	DEATHS FROM—					
				Principal Infectious Diseases.	Acute Lung Diseases.	Phthisis.	Diphtheria.	Typhoid Fever.	Measles.
Boston,	602,528	219	88	68	16	19	3	7	–
Worcester,	130,171	52	22	12	3	5	2	1	–
Fall River,	105,943	40	20	11	2	1	–	1	–
Cambridge,	98,583	29	12	8	2	3	–	–	–
Lowell,	94,889	25	11	9	2	3	–	–	–
Lynn,	78,871	26	8	6	–	1	–	3	–
New Bedford,	77,006	36	19	17	–	1	–	–	–
Springfield,	76,255	13	2	3	–	1	–	1	–
Lawrence,	71,653	28	14	11	1	6	–	–	–
Somerville,	70,908	23	8	5	1	2	–	1	–
Holyoke,	50,824	16	7	7	–	2	1	–	–
Brockton,	49,511	7	2	3	–	1	1	–	–
Malden,	38,978	6	1	1	–	1	–	–	–
Salem,	37,970	7	3	–	–	–	–	–	–
Chelsea,	37,968	12	–	3	2	1	1	–	1
Haverhill,	37,962	15	6	2	–	1	–	–	–
Newton,	37,512	12	5	1	1	1	–	–	–
Fitchburg,	33,327	5	4	5	–	2	–	–	–
Taunton,	30,967	15	4	6	1	3	–	–	–
Everett,	30,173	8	3	1	–	–	–	1	–
Quincy,	28,995	6	2	2	–	–	–	–	–
Waltham,	26,881	11	3	1	–	1	–	–	–
Gloucester,	26,011	6	6	–	–	–	–	–	–
Pittsfield,	25,704	7	2	2	–	2	–	–	–
Brookline,	24,207	–	–	–	–	–	–	–	–
North Adams,	22,150	1	0	–	–	–	–	–	–
Chicopee,	20,402	4	2	1	–	1	–	–	–
Northampton,	20,175	6	1	1	–	–	–	–	–
Medford,	19,988	3	1	–	1	–	–	–	–
Beverly,	15,506	6	3	2	–	1	–	–	–
Hyde Park,	14,784	6	4	4	–	2	–	–	–
Newburyport,	14,715	–	–	–	–	–	–	–	–
Leominster,	14,712	5	2	4	–	1	1	–	–
Melrose,	14,578	6	0	1	–	–	–	1	–
Woburn,	14,432	7	1	1	–	–	–	–	–
Marlborough,	14,168	6	0	3	–	3	–	–	–
Westfield,	13,887	–	–	–	–	–	–	–	–
Peabody,	13,438	–	–	–	–	–	–	–	–
Revere,	13,168	12	4	2	–	1	–	–	–
Clinton,	13,105	1	0	–	–	–	–	–	–
Attleborough,	12,995	2	1	–	–	–	–	–	–
Adams,	12,775	5	2	1	–	–	–	–	–
Gardner,	12,267	2	2	2	–	–	–	–	–
Milford,	12,256	–	–	–	–	–	–	–	–
Weymouth,	11,638	6	4	2	–	–	–	1	–
Framingham,	11,598	5	1	–	–	–	–	–	–
Watertown,	11,597	2	2	1	–	–	–	–	–
Plymouth,	11,452	–	–	–	–	–	–	–	–
Southbridge,	11,206	3	0	1	–	1	–	–	–
Wakefield,	10,476	1	–	1	–	1	–	–	–
Webster,	10,280	–	–	–	–	–	–	–	–
Recapitulation.									
Total of reporting towns,	2,191,310	717	283	212	32	68	9	17	1

WEEK ENDING SEPT. 22, 1906.

CITIES AND TOWNS.	Population. Estimated for 1906.	Reported Deaths in Each.	Deaths under Five Years.	DEATHS FROM— Principal Infectious Diseases.	Acute Lung Diseases.	Phthisis.	Diphtheria.	Typhoid Fever.	Measles.
Boston,	602,528	235	85	63	23	19	4	8	–
Worcester,	130,171	46	23	9	3	3	3	1	–
Fall River,	105,943	46	23	20	3	4	1	–	–
Cambridge,	98,583	26	13	11	2	1	–	2	–
Lowell,	94,889	29	15	8	1	1	1	–	–
Lynn,	78,871	21	7	1	3	–	–	–	–
New Bedford,	77,006	34	17	11	2	3	–	–	–
Springfield,	76,255	18	6	4	2	2	1	1	–
Lawrence,	71,653	35	18	16	2	3	1	–	–
Somerville,	70,908	17	5	6	4	3	–	–	–
Holyoke,	50,824	17	10	5	1	1	–	–	–
Brockton,	49,511	16	3	2	–	1	–	1	–
Malden,	38,978	8	4	2	–	1	–	1	–
Salem,	37,970	10	3	–	–	–	–	–	–
Chelsea,	37,968	13	3	3	3	3	–	–	–
Haverhill,	37,962	8	4	2	–	2	–	–	–
Newton,	37,512	9	–	–	–	–	–	–	–
Fitchburg,	33,327	7	4	–	–	–	–	–	–
Taunton,	30,967	17	5	2	1	–	–	–	–
Everett,	30,173	4	2	1	–	–	–	1	–
Quincy,	28,995	12	6	4	–	1	–	–	–
Waltham,	26,881	8	1	–	–	–	–	–	–
Gloucester,	26,011	–	–	–	–	–	–	–	–
Pittsfield,	25,704	10	–	1	2	1	–	–	–
Brookline,	24,207	4	–	2	–	2	–	–	–
North Adams,	22,150	6	4	3	–	–	1	–	–
Chicopee,	20,402	11	5	5	–	1	1	–	–
Northampton,	20,175	5	1	1	–	–	–	–	–
Medford,	19,988	3	1	–	1	–	–	–	–
Beverly,	15,506	2	1	1	–	–	–	–	–
Hyde Park,	14,784	8	2	2	–	2	–	–	–
Newburyport,	14,715	–	–	–	–	–	–	–	–
Leominster,	14,712	9	5	3	–	–	1	–	–
Melrose,	14,578	1	0	–	–	–	–	–	–
Woburn,	14,432	4	3	3	–	–	–	–	–
Marlborough,	14,168	3	1	1	–	–	–	–	–
Westfield,	13,887	–	–	–	–	–	–	–	–
Peabody,	13,438	–	–	–	–	–	–	–	–
Revere,	13,168	5	1	–	–	–	–	–	–
Clinton,	13,105	5	0	1	–	1	–	–	–
Attleborough,	12,995	4	1	–	–	–	–	–	–
Adams,	12,775	5	4	3	–	–	–	–	–
Gardner,	12,267	–	–	–	–	–	–	–	–
Milford,	12,256	3	3	3	–	–	–	–	–
Weymouth,	11,638	2	–	–	–	–	–	–	–
Framingham,	11,598	6	1	1	–	–	–	–	–
Watertown,	11,597	4	3	1	–	1	–	–	–
Plymouth,	11,452	–	–	–	–	–	–	–	–
Southbridge,	11,206	5	1	1	1	–	–	–	–
Wakefield,	10,476	2	–	–	–	–	–	–	–
Webster,	10,280	–	–	–	–	–	–	–	–

Recapitulation.

Total of reporting towns,	2,189,495	743	294	202	54	56	14	15	–

WEEK ENDING SEPT. 29, 1906.

CITIES AND TOWNS.	Population. Estimated for 1906.	Reported Deaths in Each.	Deaths under Five Years.	DEATHS FROM—					
				Principal Infectious Diseases.	Acute Lung Diseases.	Phthisis.	Diphtheria.	Typhoid Fever.	Measles.
Boston,	602,528	187	60	49	20	24	–	4	–
Worcester,	130,171	34	15	11	2	4	–	1	–
Fall River,	105,943	34	19	16	1	1	1	–	–
Cambridge,	98,583	28	12	10	4	6	–	–	–
Lowell,	94,889	32	12	4	4	1	–	1	–
Lynn,	78,871	20	4	4	–	3	–	1	–
New Bedford,	77,006	20	7	6	2	–	–	–	–
Springfield,	76,255	16	5	5	–	2	–	1	–
Lawrence,	71,653	31	15	10	4	3	–	–	–
Somerville,	70,908	19	7	5	2	2	–	–	–
Holyoke,	50,824	19	9	3	3	1	2	–	–
Brockton,	49,511	13	1	2	2	–	–	2	–
Malden,	38,978	11	5	5	2	2	–	1	–
Salem,	37,970	11	4	2	–	2	–	–	–
Chelsea,	37,968	13	3	2	1	2	–	–	–
Haverhill,	37,962	17	2	2	–	2	–	–	–
Newton,	37,512	8	4	–	2	–	–	–	–
Fitchburg,	33,327	5	2	–	1	–	–	–	–
Taunton,	30,967	14	5	7	–	3	–	–	–
Everett,	30,173	5	2	1	–	1	–	–	–
Quincy,	28,995	4	2	2	–	–	–	–	–
Waltham,	26,881	4	1	–	–	–	–	–	–
Gloucester,	26,011	–	–	–	–	–	–	–	–
Pittsfield,	25,704	13	2	2	1	2	–	–	–
Brookline,	24,207	3	–	–	–	–	–	–	–
North Adams,	22,150	3	1	–	–	–	–	–	–
Chicopee,	20,402	4	3	1	–	–	–	–	–
Northampton,	20,175	5	3	–	–	–	–	–	–
Medford,	19,988	5	1	2	1	2	–	–	–
Beverly,	15,506	6	2	–	–	–	–	–	–
Hyde Park,	14,784	5	–	3	–	–	1	2	–
Newburyport,	14,715	–	–	–	–	–	–	–	–
Leominster,	14,712	–	–	–	–	–	–	–	–
Melrose,	14,578	3	1	1	–	1	–	–	–
Woburn,	14,432	7	1	–	–	–	–	–	–
Marlborough,	14,168	5	1	–	1	–	–	–	–
Westfield,	13,887	–	–	–	–	–	–	–	–
Peabody,	13,438	–	–	–	–	–	–	–	–
Revere,	13,168	4	2	1	–	1	–	–	–
Clinton,	13,105	0	–	–	–	–	–	–	–
Attleborough,	12,995	4	1	3	–	2	–	–	–
Adams,	12,775	2	–	1	–	1	–	–	–
Gardner,	12,267	3	1	2	–	–	1	1	–
Milford,	12,256	5	3	3	–	1	–	–	–
Weymouth,	11,638	4	1	–	–	–	–	–	–
Framingham,	11,598	6	1	3	1	1	–	–	–
Watertown,	11,597	6	2	1	1	–	–	–	–
Plymouth,	11,452	–	–	–	–	–	–	–	–
Southbridge,	11,206	5	4	3	–	–	–	–	–
Wakefield,	10,476	4	–	–	–	–	–	–	–
Webster,	10,280	–	–	–	–	–	–	–	–
Recapitulation.									
Total of reporting towns,	2,187,050	647	226	172	55	70	5	14	–

WEEKLY RETURNS OF DEATHS FROM CERTAIN INFECTIOUS DISEASES.

DEATHS FROM INFECTIOUS DISEASES NOT SPECIFICALLY MENTIONED IN ABOVE TABLES DURING THE WEEKS OF SEPT. 1, 8, 15, 22 AND 29, 1906.

DISEASE.	Place.	WEEK ENDING—				
		Sept. 1.	Sept. 8.	Sept. 15.	Sept. 22.	Sept. 29.
Cerebro-spinal meningitis,	Boston,	1	–	1	1	–
	Beverly,	–	–	1	–	–
	Chelsea,	–	1	–	–	–
	Chicopee,	1	–	–	–	–
	Framingham,	–	–	–	–	1
	Lawrence,	1	–	1	–	–
	Lowell,	1	–	–	–	–
	Milford,	1	–	–	–	–
	Springfield,	1	–	–	–	–
	Taunton,	–	1	–	–	–
	Weymouth,	–	–	1	–	–
	Worcester,	–	–	1	–	–
Scarlet fever,[1]	–	–	–	–	–	–
Erysipelas,	Boston,	1	–	–	–	1
Whooping cough,	Boston,	2	2	3	4	1
	Cambridge,	–	1	1	1	–
	Chicopee,	–	1	–	–	1
	Holyoke,	1	–	–	2	–
	Hyde Park,	–	–	1	–	–
	Lawrence,	–	–	–	1	1
	Lynn,	–	1	–	–	–
	Revere,	–	1	1	–	–
	Somerville,	1	1	–	–	–
	Taunton,	–	1	–	1	1
	Watertown,	–	–	–	–	1
Malarial fever,	Lawrence,	1	–	–	–	–

[1] No deaths reported.

WEEKLY RETURNS OF CASES OF INFECTIOUS DISEASES.

CASES OF INFECTIOUS DISEASES REPORTED DURING THE WEEKS OF SEPT. 1, 8, 15, 22 AND 29, 1906.

[Under the provisions of section 52 of chapter 75 of the Revised Laws.]

	WEEK ENDING—				
	Sept 1.	Sept. 8.	Sept. 15.	Sept. 22.	Sept. 29.
Diphtheria,	114	131	197	173	170
Measles,	12	4	4	7	5
Scarlet fever,	42	41	49	66	63
Typhoid fever,	166	134	175	183	173
Tuberculosis,	112	62	51	90	68
Cerebro-spinal meningitis,	2	1	2	2	2
Whooping cough,	–	3	–	5	–
Smallpox,	–	–	1	–	–

MONTHLY REPORT ON INSPECTION OF FOOD AND DRUGS.

The following summary presents the results of the examinations of food and drugs made by the State Board of Health during the month of September, 1906: —

ARTICLES EXAMINED.	Number found to be of Good Quality.	Number adulterated or varying from the Legal Standard.	Total.	ARTICLES EXAMINED.	Number found to be of Good Quality.	Number adulterated or varying from the Legal Standard.	Total.
Milk,	217	46	263	Sausages,	5	–	5
Butter,	6	–	6	Mince meat,	1	–	1
Cream,	10	–	10	Canned meats,	11	2	13
Spices,	23	–	23	Beer,	2	–	2
Cream of tartar,	7	–	7	Non-alcoholic drinks,	3	–	3
Canned soups,	8	1	9	Wine,	1	–	1
Cocoa,	7	–	7	Maple syrup,	–	3	3
Coffee,	2	–	2	Molasses,	18	–	18
Condensed milk,	–	1	1	Pickles,	5	1	6
Clams,	4	–	4	Salad dressing,	6	1	7
Shrimps,	1	4	5	Table sauces,	7	1	8
Buckwheat flour,	1	–	1	Vinegar,	17	–	17
Baking powder,	2	–	2	Drugs,	66	11	77
Honey,	1	–	1				
Vanilla extract,	1	–	1				
Beef extract,	1	–	1	Total,	434	71	505
Head cheese,	1	–	1				

The samples of drugs found to be adulterated were: aqua ammoniæ fortior, aqua hamamelidis spirituosa, proprietary preparations and tinctura iodi.

The cities and towns in which samples were collected were: Amesbury, Athol, Arlington, Andover, Boston, Brockton, Brookfield, Belmont, Braintree, Dedham, Cambridge, Chelsea, Cottage City, Framingham, Hingham, Holliston, Hyde Park, Lawrence, Lincoln, Lexington, Malden, Medford, Milford, Middleton, Nantucket, Needham, Newburyport, Newton, Orange, Provincetown, Quincy, Revere, Somerville, Waltham, Webster and Westwood.

PROSECUTIONS FOR VIOLATIONS OF THE LAW RELATING TO FOOD AND DRUGS.

Twenty-two convictions were secured during the month of September, 1906, for selling adulterated food and drugs, as follows: —

No.	Name of Defendant.	Place.	Character of Article sold.
1	Samuel Appell and David Bonner,	Boston,	Alcohol.
2	Walter E. Bates,	Hyde Park,	Milk.
3	Frank W. Bateman,	Norwood,	Milk.
4	Frank W. Bateman,	Norwood,	Milk.
5	Geo. W. Burgess,	Hingham,	Milk.
6	Geo. W. Burgess,	Hingham,	Milk.
7	Samuel D. Bryden,	Wayland,	Milk.
8	Frank E. Childs,	Newton,	Milk.
9	Fred L. Cook,	Newton,	Milk.
10	James H. Colby,	Onset,	Milk.
11	Herbert Dalrymple,	Lexington,	Milk.
12	William Farwell,	Cambridge,	Witch hazel.
13	Reuben Federman,	Boston,	Alcohol.
14	Samuel Z. Goldberg,	Boston,	Alcohol.
15	Michael J. Roulston,	Newton,	Milk.
16	Chas. B. Stevens,	Brockton,	Alcohol.
17	Antonio Leite,	Cottage City,	Milk.
18	Antonio Leite,	Cottage City,	Milk.
19	Ernest E. McPhee,	Lexington,	Milk.
20	Ernest E. McPhee,	Lexington,	Milk.
21	Chas. F. Wright,	Boston,	Cocaine.[1]
22	Chas. F. Wright,	Boston,	Cocaine.[1]

[1] Sold without prescription.

Amount of fines, $547.

LIST OF ADULTERATED FOOD, ETC., FOR SEPTEMBER, 1906.

Number of Sample.	Character of Sample.	Brand, or Name of Manufacturer, Wholesaler or Producer.	Results of Analyses.
5915 N,	Milk,	Robert J. Murry, Arlington,	Solids, 12.21 per cent.; preserved with formaldehyde.
5917 N,	Milk,		Solids, 12.50 per cent.; preserved with formaldehyde.
2078	Milk,	Antonio Leite, Cottage City,	Solids, 9.37 per cent.; contained added water.
3005	Milk,	George Burgess, Hingham,	Solids, 11.24 per cent.; contained added water.
1934 M,	Milk,	Wm. J. Lamb, Orange,	Solids, 9.60 per cent.; contained added water.
4069	Milk,	John De Fern, Westwood,	Solids, 9.96 per cent.; contained added water.
4070	Milk,		Solids, 10.24 per cent.; contained added water.
4071	Milk,		Solids, 10.50 per cent.; contained added water.
4072	Milk,		Solids, 10.62 per cent.; contained added water.
4073	Milk,		Solids, 9.85 per cent.; contained added water.
4074	Milk,		Solids, 7.50 per cent.; contained added water.
5845 N,	Milk,	Fred L. Cook, Newton,	Solids, 10.30 per cent.; colored with annatto, and contained added water.
1778 M,	Milk,	Ernest E. MacPhee, Lexington,	Solids, 10.70 per cent.; colored with annatto, and contained added water.
4007	Strawberry jam,	American Preserve Company, Philadelphia,	Preserved with benzoic acid.
2061	"Veribest" potted ham,	Armour & Co., Chicago,	Preserved with a compound of boron.
5807 N,	"Iowa's Pride" potted ham.	John Morrell & Co., Ottumwa, Ia.,	Preserved with a compound of boron.
2022	"Royal" tartar sauce,	Horton-Cato Company, Detroit, Mich.,	Preserved with benzoic acid.
2023	"Royal" salad dressing,		Preserved with benzoic acid.
1844 M,	Dr. Agnew's catarrh powder.	Anglo-American Medicine Company, Chicago,	Contained cocaine.
5987 N,	Crown catarrh powder,	Crown Catarrh Powder Company, New York,	Contained cocaine.
1824 M,	Instant catarrh relief,	I. C. R Medicine Company, Boston,	Contained cocaine.
4020	Witch hazel extract,	H. T. Mathewson, Brookfield,	12.38 per cent. alcohol; contained formaldehyde.
5583 N,	Witch hazel extract,	Wm. B. Mahern, South Framingham,	9.43 per cent. alcohol; contained formaldehyde.
3024	Witch hazel extract,	Davis & Hatch Spice Company, New Bedford,	7.93 per cent. alcohol; contained formaldehyde.
5587 N,	Witch hazel extract,	Charles L. Curtis, South Framingham,	9.29 per cent. alcohol; contained formaldehyde.

INSPECTION OF DAIRIES.

During the month of September, 1906, 306 dairies were examined in the following places: —

Place.	Number examined.	Number found to present no Objectionable Features.	Per Cent.	Number to which Letters were sent.	Per Cent.
Burlington,	26	6	23.08	20	76.92
Canton,	4	–	–	4	–
Dedham,	2	–	–	2	–
Leominster,	76	29	38.16	47	61.84
Lunenburg,	55	10	18.18	45	81.82
Lynnfield,	37	20	54.05	17	45.95
Stoneham,	15	2	13.33	13	86.67
Tewksbury,	40	15	37.50	25	62.50
Westwood,	2	–	–	2	–
Wilmington,	21	12	57.14	9	42.86
Winchester,	14	1	7.14	13	92.86
Woburn,	14	2	14.29	12	85.71

Total number of dairies examined,	306
Number found to be free from objectionable conditions,	97
Number to which letters were sent,	209
Total number of conditions to which attention was called,	812
Percentage of dairies which passed inspection,	31.70

The names of the owners of the dairies found to be worthy of commendation follow: —

Burlington.

McIntyre, Charles.
McIntyre, George.
Manning, Clark M.
Reed, T. R.
Skelton, Walter.
Walker, F. F.

Leominster.

Abbott, Dr. G.
Blood, Charles.
Bowles, W. J.
Bowman, F. W.
Boyden, W. H.
Brown, Malcolm.
Buss, Charles.
Buss, F. E.
Butler, Thomas.
Carter, E. E.
Coleman, Joseph.
Coughlin, J. H.
Divol, Charles.
Fuller, Horace.
Hawes, J. S.
Hobbs, Stephen.
Holman, Alvin.
Johnson, John.
Kingsbury, C. J.
Kittridge, Mrs. M. H.
Peirce, E. T.
Powers, Ezra W.
Robbins, T. L.
Severance, E.
Smith, A. A.
Thayer, E. W.
Tyler, Henry.
Walker, Charles.
Welch, A. O.

Lunenburg.

Allen, Lyman.
Fuller, Dana L.
Hanks, William.
Ide, Mrs. W. L.
Lunenburg Town Farm.
Mead, H. O.
Peabody, W. S.
Price, Beverly.
Proctor, George N.
Sterling, W. W.

Lynnfield.

Bolton, Charles J.	Gray, Fred F.	Lynch, Cornelius.
Coughlan, Cornelius J.	Hart, Franklin.	Newhall, Frank A.
Cox, Thomas E.	Hastings, Luther M.	Parker, James H.
Derby, Charles H.	Hatch, George.	Ross, John W.
Flannigan, James S.	Hooper, John M.	Tedford, Albert G.
Freeman, Dr. F. W.	Latham, Chester G.	Tuttle, Albert F.
Gilson, William E.	Lawrence, H. F.	

Stoneham.

Green, Horace. Leach, Frank.

Tewksbury.

Battles, Charles M.	Clark, E. P.	Pillsbury, H. W.
Burtt, Mrs. Susan.	Dane, Fred.	Sprague, L. K.
Cameron, H.	Daniels, Joshua.	Trull, Albert J.
Carter, F. J.	Hood, C. I.	Trull, L. F.
Chandler, Miss Hannah.	Pike, S. D.	Twiss, C. F.

Wilmington.

Buck, H.	Gilbert, M. B.	Perry, C. F.
Buck, J. E.	Hale, Walter.	Stack, Joseph.
Byam, William.	Hathaway, F. A.	Williams, Edgar.
Foley, J. M.	King, R.	Wilmington Town Farm.

Winchester.

Thompson, Stephen.

Woburn.

Damon, George H. Porter, J. A.

THE SMALL SLAUGHTERHOUSES OF MASSACHUSETTS.

So much public interest was shown in the results of the examination of all of the large and a small number of the small slaughtering houses, as published in the June "Bulletin," and so many questions were asked, particularly with reference to the geographical distribution of the smaller establishments which were reported upon unfavorably and designated merely by a single letter, that it appeared that to widen the inquiry would doubtless serve a useful purpose, although with the very limited inspection force available it was manifestly impossible to cover the entire ground. Therefore, in the latter part of July, the secretary of the Board sent to the board of health of every city and town within the Commonwealth a circular letter, asking for a list of slaughterhouses in each place

and information concerning their sanitary condition. Replies were sent with commendable promptness by about three-fourths of those addressed, and as soon as a sufficient number were received, routes covering as much of the State as could conveniently be visited were laid out, and the work was begun.

From the following cities and towns no replies were received: —

[Note. — Places marked * were visited, but no slaughtering establishments were found. In those marked † slaughterhouses were found and examined. See reports below.]

Acushnet.
*Adams.
†Agawam.
†Alford.
†Amherst.
†Andover.
†Arlington.
Ayer.
Barre.
Bellingham.
†Biflerica.
Boylston.
Braintree.
Canton.
Carlisle.
Chatham.
†Chelmsford.
†Cheshire.
Chilmark.
Cohasset.
†Concord.
†Cummington.
†Deerfield.
Douglas.
*Dover.
Edgartown.
Enfield.
*Framingham.
Gay Head.
Georgetown.
Gosnold.
Granville.
†Greenfiel .
Halifax.
Hamilton.
Hanover.
Hardwick.
Harwich.
Heath.
Hingham.
*Hinsdale.
Holden.
Hull.
Huntington.
Lancaster.
†Lanesborough.
Leverett.
Lynnfield.
Mansfield.
Marblehead.
Marion.
Marshfield.
Mashpee.
Mattapoisett.
Maynard.
†Medfield.
Millbury.
Milton.
Nantucket.
Needham.
Norfolk.
North Attleborough.
Norwood.
Orange.
Otis.
Oxford.
Pelham.
Pepperell.
*Peru.
Phillipston.
†Pittsfield.
Plainfield.
Plainville.
Plympton.
Rockport.
Rutland.
Salisbury.
Sandisfield.
Sharon.
†Sheffield.
Shelburne.
Shirley.
Shrewsbury.
Southwick.
Spencer.
Sturbridge.
Templeton.
Topsfield.
Ware.
Warren.
*Wayland.
Webster.
Wellfleet.
Wendell.
Westborough.
West Bridgewater.
West Brookfield.
Westford.
Westminster.
Wilmington.
*Winchendon.
Woburn.
Wrentham.

The following cities and towns reported that they have no slaughter-houses: —

Becket.
Berkley.
Berlin.
Bernardston.
Blackstone.
Blandford.
Bolton.
Bourne.
Boxborough.
Brewster.
Brimfield.
Brookfield.
Brookline.
Buckland.
Chelsea.
Chester.
Chesterfield.
Clarksburg.

Cottage City.
Dedham.
Dennis.
Dudley.
Dunstable.
Easthampton.
Easton.
Erving.
Everett.
Falmouth.
Florida.
Goshen.
Groton.
Groveland.
Hancock.
Hatfield.
Holbrook.
Holland.
Hopedale.
Hyde Park.
Ipswich.
Kingston.
Lincoln.
Littlefield.
Lowell.
Malden.
Manchester.
Medford.
Middlefield.
Middleton.
Monroe.
Monson.
Monterey.
Mount Washington.
Nahant.
New Ashford.
New Braintree.
New Salem.
North Andover.
Northborough.
Northbridge.
Northfield.
North Reading.
Norton.
Orleans.
Paxton.
Prescott.
Quincy.
Revere.
Richmond.
Rowe.
Royalston.
Salem.
Sandwich.
Saugus.
Savoy.
Shutesbury.
Somerset.
South Hadley.
Springfield.
Sterling.
Stow.
Sudbury.
Sunderland.
Swampscott.
Tewksbury.
Tolland.
Townsend.
Truro.
Upton.
Walpole.
Waltham.
Warwick.
Washington.
Wellesley.
West Boylston.
Westhampton.
West Springfield.
West Tisbury.
Williamsburg.
Winchester.
Winthrop.
Yarmouth.

The following places, which reported their one or more slaughterhouses in satisfactory condition, were not visited. It must be remarked, however, that opinions as to what is or is not a proper condition in a slaughterhouse vary widely, and that many of the establishments visited elsewhere and condemned had already been reported upon favorably. Therefore, had it been possible to visit all of these others, a goodly proportion doubtless would have yielded unsatisfactory results.

Abington,	2	Hawley,	1
Ashby,	2	Holliston,	1
Avon,	2	Hopkinton,	2
Belmont,	1	Lakeville,	2
Beverly,	1	Lawrence,	1
Bridgewater,	3	Leicester,	1
Charlemont,	1	Lunenburg,	5
Charlton,	3	Lynn,	2
Dana,	1	Mendon,	1
Eastham,	2	Montgomery,	1
East Longmeadow,	1	Newbury,	1
Easton,	2	New Marlborough,	1
Essex,	1	Newton,	1
Fairhaven,	2	North Brookfield,	3
Freetown,	1	Oakham,	2
Gill,	2	Petersham,	1
Grafton,	2	Princeton,	2

Provincetown,	1	Stoughton,	2
Randolph,	1	Sutton,	3
Reading,	2	Tyngsborough,	1
Rochester,	1	Tyringham,	1
Seekonk,	2	Wakefield,	1
Southampton,	1	Wales,	3
Southbridge,	1	Wareham,	5
Stoneham,	1	Whitman,	1

The following places, which reported the number but not the condition, or which presented unfavorable reports, were not visited: —

Amesbury,	4	Hadley,	1
Auburn,	2	Leyden,	1
Burlington,	2	Melrose,	1
Carver,	1	Millis,	1
Colrain,	2	Peabody,	2
Conway,	1	Russell,	1
Danvers,	2	Swansea,	5
East Bridgewater,	2	Uxbridge,	3
Foxborough,	3	Vineyard Haven,	1
Franklin,	2	Wenham,	2
Gardner,	2	West Stockbridge,	1
Greenwich,	1		

The large slaughtering establishments situated in the following cities were reported upon in detail in the June "Bulletin," and they were not revisited: —

Boston.	Somerville.
Cambridge.	Worcester.
Chicopee (Brightwood).	

Following are the reports on 190 of the small slaughterhouses in 98 cities and towns. Where the conditions were found to be at least reasonably satisfactory, the names of the proprietors are given; but where they were so much at fault as not to warrant favorable reports, the establishments are designated by serial numbers only. The places visited are arranged in alphabetical order. The results speak for themselves, and they are presented without comment; but attention must be called to the fact that the provisions of the law relative to slaughtering are very generally ignored.

Thus, section 99 of chapter 75 of the Revised Laws provides that the proprietor of every slaughterhouse shall apply annually, in April, to the local authorities for a license, stating in his application, which must be in writing and properly sworn to, the estimated number of animals to be slaughtered per week and the days of the week upon which they are to be slaughtered. Section 100 provides for the issuing of the licenses. Section 101 prohibits slaughtering on any days other than those specified

in the application, except in the presence of a member of the board of health or of an inspector appointed for the purpose by the board; section 102 provides for the presence of the inspector and for examination of the carcasses at the time of slaughter. Section 105 exempts those who, not being engaged in such business, slaughter their own animals on their own premises, but it provides for proper inspection of the carcass of any animal, more than six months old, which has not been inspected under the provisions of another law within six months. Section 106 provides a fine of not more than $500 or imprisonment for not more than sixty days, or both fine and imprisonment, for slaughtering without a license, or for neglecting to cause carcasses to be inspected, or for selling a carcass or part thereof that has not been inspected. And yet many of the proprietors of the slaughtering establishments described below hold no licenses; some of the places are used by an indefinite number of unlicensed butchers from neighboring cities and towns; an inspector is rarely present at the time of slaughter; in not a few instances the person appointed as inspector is the licensee himself; sometimes the inspector is sent for and calls on the following day; sometimes meat condemned in one place is removed to another town and there inspected, passed and stamped for a small fee per carcass; and more often carcasses are not inspected at all, and consequently are not condemned, even though showing evidence of disease.

Acton.

1. Slaughterhouse, 25 by 20 feet, which contains two pens for cattle, a cooling room, and a refrigerator, 10 by 12 feet. At the time of visit the latter was in good condition and contained a dozen fair-sized dressed calves. Four calves were confined in one of the pens; 2 of them were very small.

The floor has a trench in the centre, with a slight slope; a trap door communicates with the cellar. Part of the offal and blood is given to the hogs in the cellar, and the rest is carted away and buried. There was some whitewash on the walls, but the floor, benches and utensils were very dirty, and the place was infested with flies and had an offensive smell.

About 40 cows and 80 calves are killed here each month, and the meat, which is retailed in Lowell, is stamped by an inspector.

Agawam.

2. A small slaughterhouse; area, 500 square feet. Tight wooden floor about 18 inches above the ground, without noticeable pitch. At one end there is a door, through which the blood and offal are pushed

out onto a platform in a hogpen. The platform is said to be cleaned every day, so that the hogs shall have only fresh material to eat. No ventilation. Walls and floor of the slaughtering room very dirty. Room infested with flies.

About 35 cows and 20 calves are killed here every week. The cattle are kept in a small yard, pending the arrival of the butchers, who change their clothes in a small, dirty room, 6 feet long by 8 feet wide.

A large piggery extends from the slaughterhouse for several hundred feet, and the pigs come up and feed at the platform.

Alford.

3. The slaughterhouse, 30 by 30 feet, occupies half of a dilapidated barn, the other half of which is used as an icehouse. In one corner is a platform, 12 by 14 feet, of broken and loose boards. This is the only portion of the room which has a floor. Adjoining is a hogpen, beyond which are a meadow and a brook. The blood and offal go through a hole into the hogpen, from which the drainage passes into the brook. The refrigerator, 6 by 8 feet, at the time of the visit contained many scraps and salted hides, and was in an unclean condition. The place, generally, was in a condition of clutter, and here and there were scraps of decaying meat, old heads and hoofs.

The local inspector of animals comes when sent for to look at the slaughtered meat.

Amherst.

4. Small slaughterhouse in a barn, where 10 calves per month are killed in spring and early summer. It has neither floor nor cellar. The offal is fed to hogs.

5. Building 20 by 30 feet, in a field half a mile from the town. The floor slopes to one side, where there is an opening for the escape of blood, and also a hole through which the offal is pushed into a hogpen. Heads and bones are thrown to the hogs, and also occasional carcasses of dead horses and diseased cows. After a time the bones are gathered and sold.

Thirty calves and cows are killed monthly, mostly by butchers from Holyoke, who kill for their own trade.

There is a driven well on the premises, but no cleaning is done, and the floor is very dirty and has a foul odor. In the corner of the slaughtering room is a common privy, used by those who do the butchering.

The local inspector asserts that carcasses rejected by him are carried to the inspector in a neighboring town, and stamped at a uniform rate of five cents for each animal.

6. Killing is done in a barn cellar, in a space 15 by 20 feet, with cement floor partly covered with sawdust. On one side is a large collection of manure, and on the other side is the hogpen. The liquid from the hogpen runs onto the floor of the killing area. The offal is thrown to the hogs. During the busy season the average killing is about 30 calves and cows per month. Sawdust is used to absorb the blood, but practically no cleaning is done.

7. *Dickinson Brothers.* — Slaughtering done in one end of a new barn, in a space 20 by 15 feet. About 20 calves per month are killed. The offal and blood pass through a trap door to hogs in the cellar. The floor gets no cleaning, but the work is conducted in a comparatively neat manner, and but little blood and filth were observed. General condition fair.

Andover.

8. *Fred Martin.* — Building 20 by 30 feet, with section having a sloping floor and a side door overlooking a hogpen. The floor is in good condition and is fairly clean and covered with lime. The place is not used much in hot weather, but in the busy season about 20 calves and cows per month are killed. The refrigerator, 15 by 15 feet, is clean. The hides and heads are carted off by a rendering company. In a room adjoining the slaughterhouse are accommodations for 6 cows. But few flies were observed.

9. Portion of barn, 15 by 35 feet, is partitioned off for use as a slaughterhouse. Up to the time of inspection, only chickens had been killed and dressed. The place is dark, and in an untidy condition from blood and feathers. On the day of visit 3 cows were waiting to be killed, 1 of which was exceedingly thin and had a suspicious cough.

Arlington.

10. *Bowman.* — Described and commended in June "Bulletin."

Ashburnham.

11. *H. C. Newell.* — On a barn floor, 20 by 35 feet, about 25 calves per month are killed. Underneath is a hogpen. The place is supplied with running water, and the floor is washed clean. The refrigerator, 10 by 12 feet, is clean, and has sawdust on the floor to catch drippings. The offal is converted into poultry feed. A clean, well-kept place.

Ashfield.

12. The slaughtering is conducted in a portion of the barn, 8 by 15 feet, partitioned off. From 6 to 12 lambs, raised on the premises, are slaughtered each week during the late winter and the spring months.

There is no drainage, but the offal is carted away to hogs, or buried. The place is exceedingly dirty, and the floor is covered to a depth of two inches with accumulated filth.

13. Shed, 22 by 15 feet, situated in a field. A few cattle, sheep and calves are killed each week. The offal is given to hogs in a pen beneath. Very little cleaning appears to be done. Floor very dirty. At the time of visit many flies were present, and a bad odor was noticeable about the whole place.

Ashland.

14. *E. A. Stone.* — The slaughterhouse is a room, 25 by 16 feet, with a wooden floor. A trap door communicates with a shallow cellar, in which the refuse is thrown and covered with dirt and sawdust. The cellar drains to a cesspool fifty feet away. About 50 animals, condemned by State authorities, are killed and destroyed each year. Also, in the busy season, from October to May, from 40 to 75 hogs, calves and cows are slaughtered.

The floor is scraped clean and dry. The walls are clean. Water is brought for cleaning purposes in barrels. The earth and sawdust covering keep the cellar in good condition, and, in general, the place is fairly clean, and remarkably free from flies.

Athol.

15. *H. W. Weffler.* — Small shed in a field on the outskirts of the town. About 300 hogs, 30 cows, 20 sheep and from 30 to 40 calves are killed yearly. The shed is about 15 by 20 feet; open on one side, and has a rough board floor. In a corner is a kettle for heating water. The offal is removed in a wheelbarrow and buried. Although the place gets no real cleaning, it is in fair condition.

Attleborough.

16. Slaughterhouse, 20 by 12 feet, situated in a barn. A trap door communicates with a shallow cellar containing manure. The general condition is very dirty, although the place appears not to have been used for slaughtering purposes for several weeks.

Auburn.

17. *Auburn Rendering Company.* — Small establishment, used only for the killing of an occasional old horse. No regular butchering done for more than a year.

Barnstable.

18. *Ezekiel Hoxie* (*Cotuit*). — About 25 to 35 calves and hogs are killed, from October to March, on a barn floor, 20 by 20 feet. There is no cellar. At the time of visit there was little evidence of recent use and the place was fairly clean.

19. *Wilton Cammett* (*Marston's Mills*). — The slaughtering is done in a wooden annex to a barn. The room is 22 by 15 feet, with a good board floor, and has a cellar beneath. From 40 to 50 calves and 12 to 15 cows are killed annually. Little slaughtering is done in summer. Some of the offal is carted out and buried on the farm; some is given to hogs. At the time of visit the place had not recently been in use, and was in a fairly clean condition.

20. *V. E. Jones* (*Hyannis*). — Wagon shed, 22 by 30 feet. The only indications of the use to which it is put are hoisting tackle and hooks, and the place is very clean. Only calves and chickens are killed. All offal is carted off into the woods, and covered from time to time with ashes.

21. *A. J. Bacon* (*Hyannis*). — Calves are killed on a barn floor, which, after use, is thoroughly cleaned, and shows no evidence of the use to which it is put. The proprietor keeps a provision store on the opposite side of the street, and here his meat is sold. The store is clean. All offal is carted away into the woods.

22. *O. F. Bacon* (*Hyannis*). — Calves slaughtered in a wagon shed back of a provision store. The place is thoroughly clean and shows no evidence of the use to which it is put. All offal is carried away into the woods and disposed of.

23. *William Coleman* (*Santuit*). — Slaughtering of hogs out of doors near the barn. No evidence of slaughtering observed at the time of visit.

24. *Herbert Gifford* (*Santuit*). — Hogs slaughtered in a wooden building, 10 by 20 feet, from October to March. Blood and water run into a shallow pit near by and are mixed with sand. This is cleaned out in the springtime. The rest of the offal is thrown into a hogpen. At the time of visit the place was fairly neat and clean.

25. (*Santuit*). — The slaughterhouse, 20 by 20 feet, is an annex to a barn. It has a fairly good wooden floor, which pitches slightly to a side door, through which the offal is pushed out to swine. At the time of visit, little slaughtering, except of chickens, was being carried on; but during the year, from 40 to 50 calves and a large number of pigs are killed. The floor is cleaned, but the walls at the time of inspection were dirty and bloody.

26. *Coville & Hinckley.* — A group of old buildings in a field. (The original Swift slaughterhouse.) These buildings have been cleaned and whitewashed, but the whitewash has been laid on over pre-existing dirt. The killing is done in a room 30 by 35 feet, which has an old rough floor. The light and ventilation are good. The place is used, in addition, for curing pork, and as a storehouse for meat and provisions. The refrigerator, 15 by 20 feet, is in fair condition. The bones, heads and offal are thrown onto the ground out of the most convenient door, but in summer all this material is said to be buried. About 75 calves and 12 cows are killed during the season. Water, when used, is obtained from a well outside.

Bedford.

27. *George Davis.* — Portion of barn used for killing hogs in the autumn months. At the time of visit there was no evidence of slaughtering.

Belchertown.

28. *John Stadler.* — Slaughterhouse, 10 by 20 feet, in one end of a large barn. A trap door communicates with the cellar and hogpen below. The pen opens on one side, and is less objectionable than the average pen. The bones and offal are thrown to the hogs. From 10 to 25 calves per month are killed. There is not much cleaning, but the blood and dirt are covered with hay and sand, etc.

A new slaughterhouse, 25 by 16 feet, is being built, and this is to have a cement floor.

29. Slaughtering done in portion of barn, 18 by 22 feet, with sloping floor, which gets no cleaning except such as can be done with a broom; consequently, it is not in good condition. The walls and benches are covered with dirt and blood. The offal goes to hogs on the farm. About 30 animals per month are killed. In another building there is a kettle for rendering. The condition of both buildings is dirty.

30. *Ira E. Damon.* — From 12 to 15 cows and calves are killed monthly on the floor of an old barn. The blood and offal, which are fed to hogs in a pen outside, are collected in a wooden trough and metallic bucket. There is little evidence of the use to which the place is put. No spattered blood or filth observed. Place fairly clean.

Billerica.

31. Slaughtering done in a room, 12 by 20 feet, in the end of a barn. The offal is thrown through a trap door into a cellar below, where it is eaten by hogs. Twenty-five calves per month are killed and inspected by the town inspector. At the time of visit 3 exceedingly small calves

were waiting to be killed. It was said that one of them was to be killed only for its hide. The general condition of the place was dirty.

32. Slaughtering done in a building in a field near the town. The killing room is 20 by 30 feet. About 10 calves per month and 100 hogs and 6 cows per year are killed and inspected. A refrigerator, 12 by 8 feet, is in fair condition, but the slaughtering room and the cellar below are exceedingly dirty, no cleaning being done. The offal is sold.

Boxford.

33. *John F. Benson.* — A fairly good building, 20 by 18 feet, used in autumn and winter for killing hogs. About 60 to 100 are killed during the season. At the time of visit the place was clean and in good condition. The cellar beneath is open on one side and is well lighted. This also was clean.

34. (*West Boxford.*) — The slaughterhouse is a dilapidated old building, 38 by 20 feet, with a rough floor. In the cellar beneath, and elsewhere on the premises, are kept hogs, which are fed on swill. Back of the slaughterhouse is a brook, which receives the drainage of the place. The floor of the slaughterhouse is covered with dried blood, manure and other dirt, and in the corners are old rags, papers and discarded tools.

The animals slaughtered include cows, hogs and calves. The number could not be ascertained, but it was estimated that hundreds are killed during the year. The meat is used to a great extent in a sausage factory in Lawrence.

Bridgewater.

35. A few calves (not over 20 per year) are killed in the end of a barn. Floor covered with dirty sawdust; old blood stains observed on the doors and walls. At the time of visit no killing had been done for some weeks.

36. In a dilapidated out-building, 16 by 20 feet, hogs are killed in winter. There is a room for hanging meat to cool. The floor is of loose boards and is not cleaned.

Brockton.

37. This is an extensive establishment, with cattle yards, refrigerators and a sausage factory. The cattle come from Vermont and New Hampshire, and a few are collected in the neighborhood. The average number of animals killed is 125, — 50 cows, 50 hogs and 25 calves. The slaughtering room, 20 by 50 feet, has a trap door through which some of the offal goes to hogs below; the rest is buried in the woods on the farm. The slaughtering floor is washed with hose after use, but the walls and

utensils are left dirty. The floor is level and drains off poorly. The light is very good. The refrigerator is fairly clean. The sausage factory was not in use at the time of visit, and was in fairly clean condition.

Cambridge.

38. *Trelligan.* — Described and commended in June "Bulletin."

39. *Ward.* — An old slaughterhouse, with good light and ventilation. A wooden floor slopes to a door, where the drainage is caught in an iron tub. The offal is removed in barrels on the day of slaughter. The floor is scraped after each day's work, and is clean. When visited, the walls were found to have been whitewashed recently and were in good order. The cutting board, barrels for offal and meat hooks were not clean, and many flies were observed. About 100 calves per week are killed. The general conditions are fair.

40. *Sullivan.* — A small establishment, with a floor space of 450 square feet. The wooden floor slopes to a strainer, which is connected with the public sewer. The floor is clean, but the walls near the door are greasy and bloody for about two feet from the floor. General conditions are fair.

Chelmsford.

41. (*North Chelmsford*). — Twenty calves and a few cows are killed each month in a slaughtering room in a barn, with a fairly good floor and trap door to cellar below. The floor is cleaned to a certain extent, and has lime sprinkled over it. The cellar beneath is entirely without light. At the time of visit it contained a foot or two of semi-liquid manure and a half dozen pigs, which are fed on offal from above. The heads, hoofs and hides are carried away by a rendering company.

42. *Ed. Dryden* (*North Chelmsford*). — A barn, 35 by 30 feet, with an earthen floor, is used at times for killing calves. Not more than 6 per month are killed in the summer months. At the time of visit there was not much evidence of the business.

43. *F. N. Merrill* (*North Chelmsford*). — Slaughterhouse is a building 45 by 15 feet, with a loose board floor. About 1,000 swine are killed here during the year, but not in summer, during which season a few calves are slaughtered. A boiler in a room adjoining the slaughtering room furnishes hot water, some of which is used for washing the premises. Floor and walls fairly clean.

44. (*North Chelmsford*). — A comparatively new barn, with a room 20 by 30 feet, the floor of which contains a slit and a trap door, through which the blood and offal go to the pigs in the cellar. The pigs have an outside yard as well. From 20 to 30 calves and 6 to 8 cows are killed every month. The place is not clean. The cellar beneath has a cemented

floor, on which is a foot or more of wet manure. The outside pen is fairly dry.

45. Slaughtering done in a shed connected with a house and barn. In one side of the shed there is a hole which leads to a wooden chute, which carries the offal below to hogs. The floor is scraped a little, but no other cleaning is done, and the whole floor is covered with a mixture of blood and manure, hair and grease. The entire place is very dirty, infested with flies, and foul smelling. The number of animals slaughtered per month is from 20 to 30.

46. Slaughtering carried on in the end of a barn, 36 by 12 feet, with a slightly pitched floor and drain in centre. The offal goes to a hogpen below in winter, but in summer it is carted to a hogpen in a field near by. The walls and sides are not cleaned at all. The floor is cleaned with water brought in pails, and a dry powder, said to be "antiseptic," is used to keep down odors. The heads, hoofs and hides are carted away by a rendering company, but the offal is mixed with cotton waste in the cellar, which has a cemented floor, which helps to retain the moisture, and in consequence the contents are in a very bad condition. The number of animals slaughtered monthly is about 30, — 10 cows and 20 calves.

47. (*South Chelmsford*). — The slaughtering room is a corner of a large, fairly clean barn, and is 12 by 15 feet, with a floor pitching to the centre. When visited it had been whitewashed and was fairly clean, and lime was sprinkled on the floor, upon which 60 to 70 cows and calves are killed per month. The refrigerator, 7 by 12 feet, was in fair condition.

Under the slaughtering room there is a cemented cellar, which was in a wet and nasty condition. The drainage runs back through a ditch to a cornfield. The contents of the cellar are said to be mixed from time to time with cotton waste. The place has a good water supply, and is equipped with a hose for cleaning purposes.

Cheshire.

48. Small building back of a barn, with earth floor. Slaughtering room, 11 by 24 feet, was found to contain some decomposing bones and hoofs. Although there is an abundance of water in the barn, little appears to be used, and the place is dirty. About 20 to 30 calves per month and 30 to 40 cows per year are slaughtered. An inspector is sent for to stamp the cows but not the calves. The meat is sold in Adams. In winter, the hoofs and bones are sold to a rendering company.

49. *R. B. Cummings.* — Slaughtering is conducted in a place, 20 by 30 feet, in the end of a wagon shed, which has a cemented floor. About 20

calves per month are killed. The offal goes into a hole near by, and is covered with earth and charcoal and frequently carted away and buried. Town water is used, and the place is kept fairly clean. The meat is not inspected.

Clinton.

50. Wooden building, 26 by 40 feet, in a field on the edge of the town. It has a refrigerator, 10 by 15 feet, and a cooling room of the same size, as well as a kettle room for heating water. The killing floor is 15 by 25 feet; it has a trap door in the centre, which communicates with the cellar beneath. A hogpen in the rear is open and clean. The offal is carted off to a piggery in the country; the heads and bones are sold. About 150 calves per month come from Vermont and are slaughtered here; some also are collected from towns near by. In addition, about 20 sheep per month, and 12 cows, and 100 to 125 hogs per year are slaughtered. The meat is stamped by an inspector before being shipped to Boston. The middle of the floor is cleaned somewhat. The walls, doors, tables and utensils are dirty and foul smelling, and the place is infested with flies.

Concord.

51. Building 22 by 14 feet, about one-fourth of a mile from the road. It has a rough floor, with a trap door in the centre and a dark cellar beneath, in which are pigs which are fed on the offal. The refrigerator, 10 by 12 feet, is dark and not very clean. About 50 calves and 12 cows per month are slaughtered, and the meat is sent to Lowell, where it is sold from carts. The carcasses are inspected. Heads and hoofs are sold. Cotton waste is thrown into the cellar below, to keep the manure as dry as possible, but the cellar and the whole place are exceedingly dirty and foul smelling, and overrun with flies.

Conway.

52. Market on Main Street in Conway, under which is a room, 25 by 30 feet, with a cemented floor draining to the centre, and through a pipe into the river. Calves, lambs and poultry are killed each week. A fairly good place, but not well kept, being dirty, untidy and infested with flies. In an old barn, somewhat more than a mile distant, 3 or 4 cows are killed each week on a floor 12 by 16 feet. The place is very dirty everywhere, and apparently no attempt is made to clean it. There is no water supply except that which is brought in in cans. All offal is thrown to the hogs under the barn.

Cummington.

53. Building 20 by 40 feet, in the woods. The floor at one end slopes, and has a trap door through which the blood and offal go to hogs in the cellar, which is wet and dirty, but the hogs have a large yard outside. The animals slaughtered here include cows, calves and sheep. Little cleaning is done except to push the offal into the cellar, and consequently the floor and walls are covered with old blood and dirt. The hides are salted and piled up in one end of the room. Near by is a shed, 15 by 12 feet, where calves and chickens are killed. When the killing is finished, an inspector is sent for. He arrives usually the next morning, and inspects the meat and stamps it. This is kept in a more cleanly manner, but is, nevertheless, dirty. Most of the meat is sold in the local market.

Dalton.

54. Slaughtering is conducted in a part of an addition to the barn; floor space, 28 by 15 feet. There is a hole in the wall, through which offal and blood are pushed into tubs, and removed for burial or for feeding to hogs. The floor appears to have been scraped, but no other cleaning is done, and the walls are very dirty.

55. Slaughtering conducted on a part of a barn floor, 20 by 15 feet, which slopes to a square hole, through which blood and offal are discharged into the cellar, where hogs are kept. Little slaughtering has been done during the past year, — not over a dozen calves and cows. The floor is said to be cleaned with a broom, but at the time of inspection it had not properly been cleaned since when last in use.

Dartmouth.

56. This establishment is a comparatively new, well-lighted building, 15 by 25 feet, where from 10 to 20 cows and a larger number of calves are killed each month by a number of butchers. The floor appears to have been scraped at some time, but it and the walls, doors and windows show evidence of blood, dirt, hair, manure and grease. The offal is pushed through a hole in the wall into a pigpen, a large portion of which is filled with a wet mixture of manure and pieces of offal. The building is not supplied with water, and if any water is used, it is brought from a spring two hundred and fifty yards away. The foul odor arising from this establishment is perceptible at a distance of one hundred yards in all directions.

57. The slaughtering room is 20 by 30 feet, in the end of a barn. It has a rough board floor, and beneath is a cellar. Here about 30 to

40 calves are killed per month, and about 500 hogs during the season. The offal is thrown to hogs in the cellar beneath, in which there is wet manure to the extent of a foot in depth. The slaughtering room is said to be washed with water brought from a well outside, and a small place in the middle of the floor bears evidence of having been washed to a slight extent; but the rest of the place, the walls, benches, doors and floor, are covered with clotted blood, manure and dirt.

58. A comparatively new slaughterhouse, 20 by 28 feet, situated in a meadow, a quarter of a mile from the owner's house. The slaughtering is done by another person, who has no license. No definite information could be obtained as to the number of animals slaughtered, but it would appear that from 40 to 50 a month are killed. The floor is fairly good and appears to have been scraped, but the rest of the place is very dirty in every part. The offal is pushed through a hole in the wall directly onto the ground outside, where it is mixed to some extent with seaweed. The surroundings are dirty, and the odor of the decomposing offal is perceptible for more than one hundred yards. If any water is used in the establishment, it is brought in in a single milk can. In the meadow, close by, on the day of inspection, a sick cow was observed, lying with head on the ground, and breathing forty times to the minute.

59. This place is a room, 18 by 28 feet, in a dilapidated old barn, in which are three stalls containing about two feet of manure. The floor is rotten and broken in places. The floor, walls, benches and everything else are covered thickly with manure, blood and other filth, and there is no evidence that any cleaning is ever done. The offal is said to be carted away to a farm. The cellar beneath the slaughterhouse is filled almost to the top with manure. The place is owned by a local official, and is used by a number of butchers, who hold no license to slaughter. About 15 cows per month are killed, and an unknown number of calves, the latter not inspected.

Deerfield.

60. *George E. May.* — Described and commended in June "Bulletin."

61. *B. F. Miner.* — Shed, 12 by 18 feet, in a field. It has a cement floor, which is kept in a clean condition. Ice-box connected with building is clean. The place is used for killing calves.

Dighton.

62. *William E. Walker.* — A license has been taken for the purpose of killing 4 or 5 calves and about 6 hogs per year. Work is done in the barn or in the yard, and no live stock is bought for slaughtering.

63. About 30 calves per month and 20 cows per year are killed in a corner of a new barn, in a room 12 by 16 feet. Beneath is a cellar, in which are kept hogs, to which the blood and offal are given. The heads and bones are sold to a rendering company. The source of water supply is a well in the yard, but no water is used and the floor gets no cleaning. The walls and utensils are spattered with blood, and the floor, to the depth of more than an inch, is covered with clotted blood, hair and manure. The refrigerator, 10 by 8 feet, dark and not clean, is situated in a separate building.

Dracut.

64. In one of several poorly kept barns and sheds, cows, calves and pigs are slaughtered on a floor 14 by 20 feet, with a trap door to a shallow cellar, to which hogs have access. On the day of inspection the floor had recently been cleaned and sprinkled with lime. About 10 cows per month and as many calves as can be obtained are slaughtered. The place is not regularly cleaned, and the drainage goes into the yard. Part of the refuse matter is boiled for chicken feed.

65. *Henry Wheeler.* — Wooden building constructed for the slaughtering business. It has a room, 35 by 18 feet, with a slightly sloping wooden floor. In one of the walls is an opening near the floor, through which the offal is pushed out, to fall onto a platform in a hogpen twenty-five feet below. There is also a slit in the floor, through which the blood goes into a barrel beneath. In warm weather all offal is carted away to a hogpen in a field. The refrigerator, 10 by 12 feet, was found to be in fair condition.

There is a steam boiler on the place and hot water is used in cleaning the walls and floor. On the day of inspection the walls had recently been scraped, and the accumulation of blood thereon had been reduced in amount. Under the slaughtering room is a place for salting hides, and beneath this is another room, and both were found to be in fair condition. Next to the slaughtering room is a tie-up for 6 to 8 cows, but it is well separated by partitions. The water supply is derived from a well, which is piped to the barn and slaughterhouse. The drainage goes one hundred yards back, into a meadow.

The inspector of animals, etc., comes "now and then," but does not see all that is killed and sold.

66. *Henry Coburn.* — Slaughtering done on the barn floor near a door. Six to 10 calves per month are killed. The hides, heads, etc., are removed by a rendering company. The offal is mixed with earth and allowed to decompose under ground. The floor is washed sometimes with water from the well.

67. *John Flynn.* — On the day of visit the place was not yet ready for business, the barn floor being about to be relaid.

68. Slaughtering is done on the main floor in the barn. The offal is brought into the cellar beneath, where hogs, which also get city swill, are kept. A few pigs are kept in a pen close to the slaughtering place. On the day of visit 1 very thin, small calf was waiting to be killed. The place seems to get no cleaning, but apparently not much slaughtering is done in summer, and less than the usual amount of blood and filth was found on the floor and walls.

69. Slaughtering done in a place, 20 by 30 feet, partitioned off on one side of the barn. There is a trench in the floor and also a trap door to the cellar beneath, where pigs consume the offal. The hoofs, heads, hides, etc., are removed by a rendering company. The cellar is filled with slimy matter and wet manure. The entire place is very dirty and shows but a limited space where any cleaning is done, everything else being covered with blood, grease, manure and dirt. There is no refrigerator. About 20 calves per month are killed by different butchers during the summer, but many more, and also pigs and cows, are killed in cold weather. At the time of inspection 3 or 4 immature calves were awaiting slaughter.

Duxbury.

70. *J. K. Parker.* — Although, formerly, slaughtering was done at this place for a butcher in town, at present only a few very small calves are killed for their hides, the meat being given to pigs and chickens. Slaughtering is done in a barn back of the horse stalls, in a space about 20 by 12 feet. The offal is discharged into a cellar, where it is buried in the manure. The conditions found were unobjectionable.

71. *C. H. Higgins.* — Slaughtering done in Bailey's barn, in the southern portion of the town. About a dozen sheep had been killed up to the time of visit, but it was anticipated that the business would be greater later on. The premises show little evidence of the business, blood, etc., not having been sprinkled about. The barn is small and the work has been done near the door. Offal is buried beneath manure in the cellar.

Egremont.

72. *M. Olmstead.* — In a small building, 12 by 18 feet, with a rough floor, 3 lambs are killed each week. The place is kept free from evidence of slaughtering, ashes or earth being spread on the ground over any blood or drippings. The offal, heads, etc., are carted away.

73. A slaughterhouse occupies part of a building, the other portion of which is a market. Between these two establishments are two doors. The market is clean, as is the refrigerator, 10 by 12 feet, which on

the day of inspection contained meat of good appearance and quality. The killing room, 18 by 30 feet, has a cement floor, and here from 40 to 60 calves, cows and lambs are killed. The offal goes through a hole in the wall to a hogpen outside. The floor of the killing room is cleaned a little with water brought from a trough in the barnyard. The walls, tables and doors are very dirty and bloody. When visited, there was considerable rubbish and decomposing meat lying about, and a barrel containing entrails and meat scraps, swarming with maggots, stood in the centre of the room. The odor was extremely offensive. Bones and heads are sold to a fertilizer company.

Fall River.

74. In a wooden extension of the rendering plant is a room, 40 by 35 feet, used by a number of butchers, who kill, at all hours of the day or night, from 50 to 150 cows, 50 to 75 calves, and a few sheep every month. A rendering company holds the license, and cleans up with hot and cold water and a hose every day; but, owing to the unclean methods of the butchers, the place is frequently very dirty. All the offal goes to the rendering tanks. No inspection is made of the meat prepared at this place. Those who slaughter kill what they please and peddle the meat.

Fitchburg.

75. At the end of a rendering plant, which is not being conducted as such at present, is a room 20 by 12 feet, used for killing and skinning horses. It has a sloping floor, with a gutter in the centre, and the floor is washed. The rest of the place is very dirty, and on the day when visited there was a horse's carcass hanging up, covered with flies and vermin.

76. Slaughterhouse, 25 by 15 feet, in the end of a barn. The floor contains a trap door communicating with a cellar, where hogs are kept. The offal is pushed through a trap door. About 100 calves, 40 cows and 12 hogs per month are killed. A rendering company collects bones and hides twice per week. Floor, walls and the whole place are very filthy, and show no evidence whatever of any cleaning. The nearest source of water supply is located in a barn seventy-five feet away. The local inspector is notified by telephone when slaughtering is done.

Gloucester.

77. Slaughtering is carried on in a compartment, 25 by 30 feet, of a barn. The killing floor is rough and broken in places. There is a cellar beneath, where hogs dispose of whatever offal is thrown down. The

floor and the walls appear to have received no cleaning. The whole place is very dirty, and swill is scattered all over the premises.

78. Slaughterhouse is an isolated building, 20 by 30 feet, which appears not to have been used much in summer. The floor is dirty and so are the walls. What drainage there is goes to a stagnant pool among rocks near by. A considerable number of calves are killed in the course of the year, but on the day of visit no business was going on.

Granby.

79. A small shed, 18 by 12 feet, adjoining the barn, is used as a slaughterhouse by butchers from Holyoke. About 4 to 6 animals are killed each week. Offal goes to hogs beneath. The place is very dirty, and apparently no cleaning is done.

80. Calves are slaughtered in a space 14 by 18 feet, in a barn. The offal goes to hogs beneath, and is covered every few days with sand. In winter the meat is sold to neighbors; in summer it is sold in bulk. Occasionally a horse is killed here for the hide. The floor is not properly cleaned.

81. *John Fuller.* — A shed, 18 by 20 feet, in a pasture, is used as a slaughterhouse, chiefly by butchers from Holyoke. Six to 10 cattle are killed each week, and from time to time a few calves. The place was built for slaughtering purposes and has a refrigerator connected, but no ice is used. The floor is somewhat worn and has not been kept clean, but it is better than the average. The offal is fed to hogs beneath. There is a small ventilator in the roof, and a steam heater to provide hot water.

Great Barrington.

82. Slaughterhouse is a small building, 20 by 30 feet, in a field a mile from the town. Here 20 to 30 lambs and calves are killed each month. The hoofs, bones and heads are sold. Water is pumped from a well underneath. The floor is cleaned in the centre, but elsewhere it is dirty, as are also the walls and benches. The offal is given to hogs in an adjoining pen, which is kept in fair condition.

Greenfield.

83. Slaughterhouse, 25 by 40 feet, situated in the woods about two miles from town. A dozen or more lambs and a variable number of cows and calves are killed each week in the busy season. There is a refrigerator on the same floor.

Fat, bones, offal, etc., go into the rendering tank, and the oil is sold. The tank liquor is carted away and deposited in the fields. The tank residue is pressed dry and sold for fertilizer. The bones are dried on the

floor of the separate building and sold for glue stock. The rendering is done in a building adjoining the slaughterhouse. The floor and all parts of the slaughterhouse are very dirty, and apparently no cleaning is done. The premises in general are very dirty. Most of the meat goes to local butchers.

Hampden.

84. Shed, 12 by 18 feet, used as a slaughterhouse for calves, poultry, etc. A portion is partitioned off and used as a pen for animals awaiting slaughter. The offal is carried away. Slaked lime is strewn over the floor, which, however, is not very clean.

85. From 10 to 12 calves per week are slaughtered on a portion of the barn floor, 10 by 12 feet. The offal is given to hogs in the cellar beneath. Water for cleaning has to be brought in. The floor is in poor condition. The general condition is dirty.

Hanson.

86. About 10 cows and 10 calves per month are killed on the barn floor, 12 by 20 feet. The cow and horse stalls are immediately adjacent. The offal is buried on the farm. The heads, etc., are sold. The floor is covered with hay and dirt, but at the time of visit there was not much evidence of the slaughtering business.

87. *Louis H. Hammond.* — About 300 hogs per year are killed in the building, 12 by 30 feet, which is in fair condition. At the time of visit the floor was strewn with lime and the place was fairly clean.

Harvard.

88. Slaughterhouse a part of a good barn, one-eighth of a mile from the centre of the town. The space used for slaughtering purposes is 20 by 35 feet; the rest of the building is used for stalls and calf pens. In the centre of the killing floor is a trap door communicating with a dirty cellar, where the offal is given to hogs. The floor is cleaned to some extent in the centre by means of an old broom, but the rest of the floor and the walls are thickly covered with blood and manure. The place is infested with flies and has a disagreeable odor. About 70 calves per month are killed, the meat of which, after inspection and stamping, is sent to Boston.

89. *H. F. Whitney.* — A portion of one end of a large new barn, in the centre of the town. The slaughtering floor is 20 by 30 feet, with a trap door in the centre. The cellar beneath is large, and only one corner is used for manure. The blood, water, etc., are washed into this portion. The offal is buried in the fields. Hoofs and heads are sold.

The cooling room, 10 by 12 feet, and the refrigerator of the same size were empty at the time of visit and in clean condition.

Fifty calves and about a dozen cattle are killed each month, and during the course of the year about 150 hogs. When sent for, the inspector comes as a rule, but occasionally fails to appear, in which case the meat is sent to Ayer. Most of the meat is sent to Boston.

The centre of the floor is washed, but the walls, doors, etc., are left somewhat dirty. The place, as a whole, is in fair condition.

Haverhill.

90. *F. M. Thornton.* — Slaughtering is done in one end of a barn, which, at the time of visit, was filled with hay and appeared not to have been used for some time. A variable number of calves (not over 50 a year) are said to be killed. The surroundings and general character of the place are good.

91. *F. A. Glines.* — Slaughtering floor, 12 by 28 feet, connected with a barn. It has a loose board floor, beneath which is a shallow cellar. At the time of visit, the place was in fairly clean condition, and showed no evidence of recent use. About 500 hogs and calves are killed between October and April.

92. Part of a large old building in a field about a quarter of a mile from the road and dwelling houses, originally used as a piggery. One end is partitioned off for slaughtering. The floor, 25 by 25 feet, slopes slightly to one side, where the offal is pushed out of a small opening into a box, and this is carted off and fed to pigs elsewhere. The slaughtering floor is scraped fairly clean, but the walls are not cleaned at all and are very dirty. There is an ice-box, 8 by 15 feet, opening into the slaughtering room, but it is not used. From 12 to 15 cows and calves per week are killed.

Holliston.

93. From 20 to 30 calves and cows per month are killed in an annex, 28 by 18 feet, to a barn; in the autumn and winter hogs are also killed. The slaughterhouse has a fairly good floor, which was found to be clean, but the walls and utensils were dirty. The offal is used in part to feed swine and part of it is buried on the farm. Water is brought in pails from the well as needed. On the day of visit no slaughtering was being done.

Holyoke.

94. Building, 12 by 20 feet, in a field half a mile from house, used by various butchers for killing 12 to 40 cows and calves per month. The offal is given to hogs in the cellar beneath. Water is obtained

from a brook one hundred yards away, but none is used for cleaning purposes, and the floor and walls are dirty, and the whole place and vicinity give off a disagreeable odor.

Hubbardston.

95. *Leslie Thompson.* — From 20 to 40 cows, calves and sheep per month are killed on the barn floor. The work is done in a neat manner, and the place shows very little evidence of business, for sawdust and lime are used on the floor and the blood is not spattered about. The offal is given to hogs in a pen outside.

96. *Moses Bennett.* — Ten to 20 calves per month are killed on the barn floor, which shows little signs of blood or dirt. The blood is caught in a bucket and the offal is removed.

97. *W. R. Gale.* — The killing floor, 12 by 12 feet, is partitioned off in a corner of the barn. It has a trap door to the cellar, where hogs are kept. The floor is covered thickly with sawdust. About 20 calves per month are said to be slaughtered. The offal is fed to the hogs. Most of the meat goes to Gardner.

98. Building, 20 by 24 feet, with good sloping floor, with a hole at one end through which the offal is pushed. Only an occasional cow or calf is slaughtered. Cleaning up in the past has not been thorough, and old blood and dirt remain on the floor and walls. What water is used comes from a well seventy-five feet away. Very little business had been done for three months preceding the day of inspection, by reason of the fact that competitors had been buying up the very young calves.

99. Part of an annex to barn, 40 by 30 feet, is used as a slaughter-house. The floor is dirty and slippery with blood and dirt mixed with lime. Considerable stinking offal was lying about on the day of inspection. From 20 to 40 calves and cows are killed each month. Some of the offal is fed to hogs and some is buried.

Hudson.

100. Building, 25 by 35 feet, on the bank of a river, has not been used for slaughtering purposes for more than a year, though a license is held. The place is now used for melting grease. The floor is much worn, but has been washed. The tables, utensils and refrigerator are dirty. In the cellar beneath is a decomposing mass of offal, old blood, manure and slimy material, which gives off foul odors.

101. *Benjamin Brown.* — Slaughterhouse, built in a corner of a new barn, covers an area 12 by 15 feet. It has a trap door in the centre.

The cellar beneath is fairly clean. The place had been used but little at the time of inspection, but appeared to have been kept clean. About 10 calves per month and 25 hogs per year are slaughtered, and the inspector calls and stamps the meat. A rendering company takes the hides and bones. The offal is given to hogs.

Lanesborough.

102. *E. N. Wood.* — A wooden building, 28 by 50 feet, is used as a market, refrigerator, sausage and lard room, and slaughterhouse. It is divided into three rooms, one of which, 28 by 15 feet, has a wooden floor with a trap door in the centre, under which are a box of sand and a bucket for catching blood. The blood and offal are given to hogs under a barn one hundred feet away. The killing floor is strewn with lime, and little evidence of spattering of blood is observable. The business appears to be conducted in a neat manner. Thirty or more calves per month are killed.

The lard and sausage business is carried on only in cold weather. The material used in this part of the business is brought by farmers who kill their own hogs.

Lee.

103. *John Kennedy.* — Building, 24 by 12 feet, used until March last for killing calves, cows and lambs, no business being conducted since then. The floor slopes to the rear. When used, the offal was pushed out of a door in the back and carted away.

104. Building, 20 by 20 feet, in a field a mile from the town. It has a rough floor with a trap door, through which the offal goes to a platform in the cellar, where hogs are fed. The cellar is wet and dirty. About 20 to 30 calves and sheep per month are killed. There is running water, and the floor shows evidence of occasional use thereof, but the doors and walls are covered with blood and dirt. Hoofs, heads and bones are sold. The premises in general are rather dirty.

105. Wooden building, 16 by 18 feet, in a field. It has a rough floor, and a hole at one side through which the offal is delivered to hogs. The surface water and drainage from the slaughterhouse gather in a hole in the pigpen behind, and form a green, foul-smelling pond fifty feet in diameter.

Thirty to 40 sheep, calves and cows per month are killed. Only a small place on the floor is cleaned; the rest remains dirty and bloody. What water is used is brought in a pail from a spring. Adjoining are several cattle pens.

106. Forty calves and a few cows and lambs are killed each month

on the barn floor. The offal goes out of the back door to hogs. Hoofs and heads are sold to the collectors of a rendering company. There is no evidence of cleaning, and the floor and walls are bloody and dirty.

Lenox.

107. Building, 24 feet square, on the edge of a meadow. Twenty calves per week and about 200 hogs per year are slaughtered. In a side room, 10 by 12 feet, there is a kettle for heating water. A hose supplied with town water is used for cleaning the floor, which is in good condition, but the walls show dried blood stains. The floor has a slight pitch, and the offal is pushed out of the small opening at one side into a hogpen, where it decomposes and produces a bad odor, which is perceptible for some distance. The meat is sold in a market in Lenox.

108. About 5 cows and 25 to 40 calves per month are killed in a small shed 17 by 10 feet, on the river bank. The floor has a slight pitch, and the offal is discharged into a hogpen adjoining, where it is mixed with earth and manure. The floor is clean; the walls are bloody and stained. Washing is done with river water obtained with a bucket. There is but slight odor.

109. *F. Fredericks.* — Slaughterhouse, 24 by 18 feet, adjoins the barn. About 50 calves, 30 sheep and lambs, and 35 to 40 cows are killed per month. The refrigerator, 24 by 18 feet, opens from the slaughtering room and is fairly clean. The floor has a slight pitch, and is provided with gutters, through which blood, water and offal are shoved along into a hogpen adjoining. The water supply comes through a pipe from the hills above, and the place is washed with bucket and broom. It appears that in the past the cleaning has not been thorough, for the floor and walls are considerably stained; but of late considerable improvement has occurred. Some alterations, including a cement floor, are being considered. The conditions inside may be described as fairly good.

Leominster.

110. Building in a field, with slaughtering floor 25 by 30 feet. Refrigerator in the corner, 6 by 12 feet. The floor of the slaughtering room pitches to a gutter in the centre. Offal is pushed out of a hole in the wall into a hogpen. Fifteen to 25 cows and 50 to 100 calves are killed per month. Water is obtained from a brook by means of a bucket. The refrigerator is dirty. The floor, walls, doors, benches and all utensils in the killing room are exceedingly filthy, and a foul odor is noticeable everywhere.

Lexington.

111. Portion of small barn, 20 by 18 feet, used for slaughtering; has a rough dirty floor covered with shavings, which are used also for bedding for horses in the adjoining stalls. Pieces of harness and a lot of old dirty burlap, some knives and other butchering implements scattered about. The walls and floor are covered with clotted blood, dried manure and dirt. Water is obtained, as needed, from a well. The offal is thrown out of the only window to hogs in a small, dirty pen. Some of the offal is said to be buried on the place; and hides, hoofs and heads are carted out and sold to a rendering company. From 30 to 40 calves per month are slaughtered, and the meat is sent to a commission house in Boston. On the day of inspection 8 small calves, from one to two weeks old, were confined in a pen, and were to be killed that day.

112. Combination slaughterhouse and piggery. About 100 pigs are kept in pens and are fed on garbage. Decomposing garbage, giving off extremely nauseous odors, was observed strewn about generally. Slaughtering is done in a building 12 by 28 feet. It had recently been whitewashed, the whitewash being applied over the accumulated dirt. The place in general is very dirty. Water is derived from a well in the yard. From 20 to 40 calves per month are slaughtered, and a large number of hogs — more than 1,000 — per year, for hotels in Boston. Much of the offal is said to be buried on the farm, and some is sold.

113. Slaughterhouse, 20 by 15 feet, is a shed at the end of a dwelling house. It has a rough earth and cement floor, upon which ashes and dirt are sprinkled to cover up blood, etc. It is used not only for slaughtering of calves, but as a hen-roost, and considerable hen manure was observed. The water supply is derived from a well in the yard.

114. *Charles Daley.* — Slaughtering is done on a platform, 12 by 15 feet, on the floor of a fairly clean barn. The place is whitewashed and lime is used on the floor. Twenty to 30 calves are killed per month. The hides, hoofs and heads are sent to a rendering establishment, and the offal is fed in part to pigs kept in pens some distance away, and in part is buried on the farm. A fairly clean place.

115. On the floor of a small barn, 12 by 20 feet, some butchering of calves is done without a license. On the day of visit no other information was obtainable. The floor and walls were covered with clotted blood, dirt and hair. The offal, mixed with manure, was stacked up outside the barn.

Longmeadow.

116. Shed, 15 by 30 feet, in a field. Six to 10 calves per week are killed, and the offal is thrown to hogs in a pen adjoining. In cool weather a few cows and hogs are slaughtered. Water is brought in cans for the purpose of cleaning the floor, which, however, is dirty and smells badly.

Ludlow.

117. From 6 to 10 calves per week are killed on the floor of a dirty cow barn. Hogs are kept in a dark pen beneath, and to them are given the blood and offal.

Marlborough.

118. About 25 calves and 2 or 3 cows per week are slaughtered on a portion of a barn floor, 12 by 24 feet, which is covered with loose boards. There is a refrigerator, 12 by 18 feet, which on the day of inspection was empty. In an adjoining section of the barn, separated by a partition and doors, a few horses are killed, and in the winter season about 300 hogs. This place had not been used for some time. Beneath the former section is a cellar, wherein are confined hogs to which the blood and offal are given. The whole place and surroundings are dirty, and the barn is foul smelling.

Medfield.

119. *E. Bullard.* — Four or 5 calves are killed per month in a room, 20 by 28 feet, in the rear of a provision store. The floor slants to one side, and the blood and offal are caught in a pail and given to pigs in a pen farther back in the yard. There is no evidence of recent use, and the place appears to be kept in a cleanly manner.

Medway.

120. When visited, this place had no license. In a dark shed, 12 by 15 feet, were the carcasses of several calves, which were being skinned and dressed on the ground, there being no floor. A new building, 12 by 15 feet, in a field adjoining, has a rough cement floor, covered with dirt and blood. On the walls hind quarters, lungs, livers, hearts, etc., were hanging about, swarming with flies. In a crate in the yard were 6 calves awaiting slaughter, and 2 of them were unusually small and lean. The whole place was very dirty and in disorder. Twenty-five cows and a much larger number of calves are said to be killed monthly.

Merrimac.

121. Space, 12 by 18 feet, on barn floor used for killing calves and occasionally cows. A trap door in the floor communicates with the cellar below, in which are kept hogs, to which is fed the offal. The refrigerator, 6 by 9 feet, opens from the barn floor. It is clean but not in use. The slaughtering floor and the walls are bloodstained and dirty, and littered with feathers from recently dressed poultry. In winter, hogs are brought to this place after being slaughtered on farms, and are dressed in an outhouse, 12 by 30 feet, where pork, hams and bacon are cured, sausages are made and lard is rendered. This building was found to be in fairly clean condition.

Methuen.

122. A part of a barn floor, 35 by 15 feet, is used for slaughtering. It has a slit and a trap door, through which the waste products go to the cellar, where they are eaten by hogs. This cellar is full of slimy matter and manure. The refrigerator, 12 by 15 feet, fairly clean, was well filled with meat. The water supply is derived from a well in the yard, and what water is used for washing is brought in. From 25 to 30 cows and 40 calves are killed each month. While awaiting slaughter, they are kept in stalls on the same floor. The heads, hides and hoofs are carried away by a rendering company. The whole place is very dirty. The floors and walls are thickly encrusted with blood and dirt. There is no evidence of any cleaning.

123. Slaughtering done in a filthy old barn, on a floor, 20 by 25 feet, with a slight slope. In the centre is a slit for the blood, and in the rear, a door through which the offal is sent to the ground outside, which is covered to a depth of a foot or more with slimy manure and refuse, which drain back into a field. There is an unused refrigerator, 20 by 15 feet. The place is in constant use, and from 20 to 50 cows and calves are killed per month. On the day of inspection a place in the centre of the floor, about 6 feet in diameter, had been washed, but everywhere else were dirt, filth, slime, blood, grease and flies.

124. Slaughteringhouse, 25 by 15 feet, with a rough wooden floor, in which is a trap door. Beneath is a cellar where hogs are kept. There is a refrigerator, 10 by 12 feet, which on the day of inspection was empty. Twenty-five animals per month is the average number slaughtered, exclusive of hogs, which are killed in the autumn and winter. Next to the slaughtering floor is the cow tie-up, 25 by 20 feet. Heads, hides, hoofs, etc., are removed by a rendering company. The offal is thrown into the cellar to the hogs. Here the admixture of

loam to the manure, etc., makes the condition less offensive. The whole place was found to be very dirty, and showed no evidence of regular cleaning.

125. The slaughterhouse, 30 by 40 feet, is one of a collection of sheds in the woods. On the day of visit it was locked, and admittance could not be gained. Hogs were observed in a dark, wet cellar beneath. There was a foul odor about the premises, and what could be seen was dirty, and there was no evidence that cleaning is ever done. From 20 to 40 cows and calves are killed each month.

Middleborough.

126. About 400 hogs and 50 cows per year, and 30 calves per month are killed on a barn floor, 25 by 10 feet. The water supply is derived from a well in the yard. Close by are cow stalls and hay. A trap door communicates with a fairly clean cellar, in which no hogs are kept. The offal is buried on the farm in summer. Heads and hoofs are sold in cold weather. While the place appeared to be rather dirty, the work is much more neatly done than in some other places, and there was a smaller accumulation of blood and dirt. The place was infested with flies, and 2 dressed calves, hanging in the barn, were covered with them.

Milford.

127. *E. Gilardi.* — The slaughtering room is partitioned off in the end of a very good barn. Beneath is a cellar, in which hogs are kept in summer only. From 45 to 55 cows and calves per month are killed. The offal and blood are collected in tubs and buried in the summer months, and mixed with manure in the cellar in the winter. In another building is a market, in which is situated the refrigerator. In another small building sausages are made in cold weather. There is running water in the barn close to the slaughterhouse. On the day of inspection the place was found to be fairly clean, the walls having recently been scraped quite free from blood, etc. The refrigerator and market were found to be in good condition.

Montague.

128. Building, 20 by 30 feet, in a field a quarter of a mile from dwelling house. In one corner a refrigerator, 12 by 6 feet, passably clean. Next to the slaughtering floor are two cow stalls and a pen for calves; in another corner a place where hides are salted and piled. Underneath is a cellar with hogs, which feed upon the offal. The slaughtering floor, tables, walls, doors, etc., are very filthy, and appear

to get no cleaning whatever. Some water is collected in a barrel from the ice which melts in the refrigerator, but it is not used on the floor. From 50 to 75 cows and calves are slaughtered.

New Bedford.

129. Slaughterhouse is a room, 11 by 15 feet, in a building which is one of a collection of stables, sheds, etc., on the outskirts of the city. The floor is rough and uneven, and although it is washed with a hose it cannot be thoroughly cleaned. The walls and benches are spattered with blood and dirt, and appear not to be included in the operation of cleaning. Ten to 15 cows and a larger number of calves are killed each month. All offal and refuse are removed by a soap company. The meat is carried to a store near by and put into cold storage. This establishment was fairly clean.

Condemned cattle are killed here in considerable numbers and delivered to the soap company, which gives a receipt for the carcasses, and the receipts are given to the inspector of animals.

Newburyport.

130. In a shed 16 by 20 feet from 15 to 20 calves and several dozen chickens are killed each month, and in winter there is some slaughtering of hogs. The veal is sold to the local markets. The place is dirty and untidy, although it is said to be cleaned after each killing. The hides, bones, etc., are taken away by a rendering company.

131. Small building in a field, with a small yard from which cattle are led through a stall to the killing floor, which is 20 by 30 feet. The blood and offal go through a trap door to a cellar, where they are covered, once a week or oftener, with sand or dry leaves. Bones, fat, hoofs, hides, etc., and the carcasses of condemned horses and cows are sent to a rendering plant in metallic barrels. The meat is cooled and then hung in the refrigerator, 10 by 12 feet. Some "barrel meat," consisting of trimmings and small irregular pieces, is sold to sausage makers. The floor of the slaughterhouse is rough and uneven, and though said to be cleaned every night is very dirty. The walls also are very dirty and are apparently never cleaned. The place is infested with flies and has a foul odor.

North Adams.

132. In an old building, in which there is a room 20 by 30 feet, with a rough wooden floor, about 20 to 30 cows and calves are killed monthly by different butchers. There is running water from the hill, but the place is cleaned only with a broom, and is dirty. Offal is thrown into a hogpen adjoining. Bones and hides are sold.

133. On a hill in the outskirts of the city is a large hogpen, near which is a building 25 by 45 feet, which is used as a slaughterhouse. The killing room, 25 by 30 feet, has a rough wooden floor. The offal is pushed out onto the ground and left in a decomposing, stinking heap. Although there is running water at hand, no cleaning is done. An uncertain number of cows, probably between 20 and 40, are killed each month by different butchers. The place is very dirty and foul smelling.

Northampton.

134. A small building in a field; rented to a number of butchers. Fifteen to 30 cows and calves are slaughtered each month. The board floor slopes slightly and is washed clean. In the middle of the floor is a trap door, and at the end is a slit through which the blood escapes. All offal is sent into a shallow cellar or into a ditch behind, from which it is removed from time to time and buried. The water supply is derived from a well close to the door. There is an ice-box 5 by 10 feet, but it is not used. Although the floor is clean and well kept, the walls are not cleaned, and considerable blood, etc., was observed.

Norwell.

135. Slaughterhouse, 10 by 25 feet, in the end of a dilapidated barn. The floor, walls and doors are very dirty. About 175 hogs and 25 calves are killed per year. The offal is given to hogs in a pen outside. When visited, there was no evidence of recent use.

136. *N. W. Cutler.* — Ten to 20 calves per month are killed back of the horse stalls on the floor of an old barn. The slaughtering is confined to the spring months. The offal is carted off and buried. On the day of inspection the place was found to be in a properly clean condition.

137. *Carlton Pinson.* — Thirty or 40 calves per year are killed in a shed 12 by 20 feet. There is no cellar. The offal is buried on the farm. On the day of visit there was no evidence of recent work, and the place was in fairly clean condition.

138. Slaughterhouse, built twenty-five years ago, contains two large refrigerators. The killing floor, 28 by 14 feet, has communication by means of a trap door with the cellar, into which offal was formerly discharged. Although this practice has been discontinued, a slimy, stinking mass of offal was found still being stored. About 100 calves, 20 sheep and 5 cows are said to be killed during the course of a year. The place, in general, is dirty, and infested with flies.

Palmer.

139. *Clark & Hastings.* — Part of a barn four miles from town, made into a slaughterhouse; two large refrigerators, 15 by 15 feet, not much used. Main slaughtering floor, 30 by 15 feet, has a good slope, and is made of smooth boards. At one end is a hole, through which offal is discharged to hogs in a pen outside. From 2 to 4 cows, 3 to 6 calves, and a few sheep are killed each week. Some rendering of tallow is done in a building in the yard. The heads are boiled and the bones are sold. On day of inspection the walls had been scraped clean, and the floor showed evidence of constant cleaning with water from a cistern.

Pembroke.

140. *Charles E. Bates.* — From 75 to 100 calves and a dozen cows are killed in the end of a new barn in the course of a year. The slaughtering is done close to the horse stalls, where there is a trap door. Before killing begins, sawdust is spread upon the floor for the purpose of absorbing blood, and later it is thrown into the manure cellar. There is no spattering of blood, and the place is clean.

141. *J. J. McFarland.* — An old blacksmith shop, 20 by 28 feet, used as a slaughterhouse, chiefly in cold weather. About 100 calves are killed in the course of a year and some hogs in winter. The inspector is sent for when there appears to be anything wrong with the meat, whereupon he decides whether or not it is fit for food.

142. *Charles J. Mix.* — About 50 hogs and an inconsiderable number of calves are killed during the course of the year in a corner of the barn. When inspected there was no evidence of recent use. An inspector is sent for to stamp the meat.

Pittsfield.

143. *D. X. Jordan.* — Slaughterhouse is a room, 20 by 25 feet, next to the barn. It has a fairly good board floor, washed clean. Walls and doors spattered with blood. Place said to be washed after each killing. Floor slopes to the rear, and the offal is discharged into a fairly dry and clean hogpen outside. During the summer, only about 10 calves per month are killed. The heads and bones are boiled. Conditions much cleaner than ordinarily observed in small slaughterhouses.

144. This place is known as ——'s slaughterhouse, and six different individuals have licenses to kill here. Slaughtering is carried on in a space 25 by 30 feet, with a cellar beneath. The water supply is derived from a well and a brook. From 40 to 60 cows and calves are killed each month. The offal is given to hogs. The bones and heads are sold. On

the day of inspection the place appeared to have recently been cleaned, but the walls, floors and doors showed evidence of having gone uncleaned for a long time previously.

145. Building, 20 by 35 feet, in a field near a meadow. The killing floor has a gutter in the centre for blood. In the wall is a hole, through which to push out the offal, which is collected in tubs and removed. The place is dirty and foul smelling. No information could be obtained as to the number of animals slaughtered.

Plymouth.

146. About 25 animals per month are killed in a building 22 by 28 feet, on the outskirts of the town. The cellar contains manure and some bones and offal. No hogs are kept and most of the offal is carted away. The place has no water supply, and no cleaning is done. The floor, walls, doors, benches, and everything about the premises are very dirty.

147. *Fred Wood.* — A few calves and hogs, not over a dozen per year, are killed in the spring and fall months in the barn.

Raynham.

148. Shed, 16 by 16 feet, at the end of a dirty barn. Floor space, 16 by 16 feet, is separated by a fence from a pigpen. Manure is piled up on the floor, and the hogpen is full of slimy manure. From 20 to 40 cows and calves are killed per month, and the offal therefrom is thrown over the fence into the hogpen. No cleaning is done, and the place is very dirty.

Rehoboth.

149. Slaughterhouse, 25 by 30 feet, has a rough board floor, communicating by means of a trap door with a cellar, in which 4 hogs, fed on offal, exist in three feet of slushy manure. The water supply is derived from a well in the yard. Refrigerator, 10 by 12 feet, in the corner, empty and dirty. About 50 cows and 20 calves per month are killed by several butchers, who do no cleaning whatever. The walls, doors, utensils and floor are covered with blood, manure, hair and filth. Bones are collected by a rendering company. The meat goes to Providence. There is no inspection whatever, and the place is filthy.

Rockland.

150. Small shed, 8 by 12 feet, used for killing about 10 calves per month. The floor is washed a little in the centre, but the place is very dirty and foul smelling. Flies were numerous on the day of inspection. The offal is buried, and the heads and bones are sold.

151. From 10 to 15 calves per month during part of the year are slaughtered in a shed 12 by 16 feet. No cleaning is done, but lime is strewn on the floor. Outside is a hogpen into which the offal is thrown. The place is dirty.

Rowley.

152. Slaughterhouse in a barn. It has a good floor, with a trap door to the cellar, and has plastered walls. There is a refrigerator, 10 by 12 feet, filled with meat of all kinds. Twenty or more cows and calves per month are killed between October and May, and about 200 hogs in addition. In summer, the amount of slaughtering done is small. On the day of visit the place was dirty, and much decomposing scrap meat was lying about on the floor, benches, etc., which had a foul odor. Although there is running water in the barn, little is used in cleaning the slaughterhouse. An out-building, 20 by 45 feet, is used for curing pork and hams.

153. *John Gilday.* — A few calves are killed each month on part of the barn floor, 12 by 25 feet. The offal is carried away and buried. Water is brought from a well in the yard, and the killing floor is kept fairly well washed. The sides and walls are not clean. The general condition of the place is fair.

154. In the rear end of a good barn is a room, 20 by 12 feet, in which about a dozen calves are killed per month and an occasional cow or sheep. Hogs are killed in the autumn and winter. The floor has a trap door to the cellar below, where hogs are kept and fed upon the offal. A refrigerator, 14 by 4 feet, is in fair condition. The water supply is derived from a well in the yard. When inspected the room was dirty, but showed no signs of recent use. The inspector of cattle is occasionally sent for when any question regarding the fitness of meat for food arises, but he does not come regularly.

Sheffield.

155. Killing done in a space 25 by 16 feet, next to horse stalls. During the season 10 to 20 calves and lambs are killed each month. The floor is of earth, and apparently little cleaning is done. The offal is carted away.

156. Slaughtering done on part of the floor of an old barn, 12 by 15 feet. In the corner is a hole, through which the offal is pushed to hogs. Water is brought in a pail, and the place is rubbed with a broom, but the floor is not very clean and the walls are very dirty. About 30 calves per month are killed. In a shed were 3 calves, from three to six days old, awaiting slaughter.

157. *Patrick Costello.* — Slaughtering done on a barn floor 20 by 40 feet. A few cows and about 12 calves per month are killed. The offal, heads and bones are thrown to hogs in a pen behind the barn. Little cleaning is done, but the work is performed in a fairly neat manner, so that the place is in reasonably clean condition. The ice chest, 5 by 8 feet, is clean.

Sherborn.

158. In a room, 10 by 30 feet, in a large old building, horses and condemned cattle are killed for hides and bones. The meat is cut off and buried. The offal goes to a cellar below and is covered with lime. The floors are badly worn, and are merely scraped clear of surface blood. The place smells distinctly foul and is infested with flies.

159. Slaughtering done in a part of the barn, 12 by 18 feet, which is separated from the rest of the barn by thin board partitions, and has a ventilator in the room. Within twenty feet are 4 horses and 5 cows. The place is very dirty, and does not appear to be cleaned at all. Offal is thrown into the manure yard, but some of it is given to pigs. From 200 to 300 calves and cows are killed in the course of the year. Not much is done in the summer months. A rendering company buys the heads, hides, etc.

Somerville.

160. An old slaughterhouse in course of repair; killing room, 20 by 26 feet. Floor of rough planks, sloping to a trough, which can be flushed with a hose, but on the day of inspection was dirty and bloody, and the walls were spattered with blood and filth. Offal is thrown onto a manure pile in the cellar, and that present on the day of inspection was several days old and very offensive. The place was generally untidy and foul smelling. In a small room, 14 by 8 feet, the carcasses are hung up to cool. The floor drains to a strainer and is filthy and bloody. The meat hooks are greasy and bloody, and the beams black and covered with grease and hair. The place was swarming with flies.

Southampton.

161. The slaughterhouse is an old barn, the floor of which is covered partly with zinc. Thirty to 40 cows and calves per month are slaughtered. The offal is fed to pigs kept in a neighboring field. The heads and hoofs are sold. On the day of inspection, offal was still lying on the floor, none having been carried out since the last killing. The floor gets no cleaning, except what can be done with an old broom. Lime is sprinkled about from time to time to destroy odors.

Southborough.

162. *Deerfoot Farm Company.* — Specially constructed building, with cement floors. The hogs are driven from pens into a small room, where they are caught and hoisted to a floor above; thence to the killing room, which has a cement floor draining to a pipe in the centre. After being bled, they go to a scalding tank and then to a table, where they are shaved. Next they are hung up and dressed, inspected by a United States inspector and sent into the coolers.

General conditions excellent. Ventilation and light adequate.

The hogpens are in a building 90 by 38 feet, provided with water pipes. The offal is carted away to rendering works.

Stockbridge.

163. Slaughtering done in a barn some distance from any house, on a floor 20 by 30 feet, covered thickly with clotted blood and manure, and a considerable number of decomposing heads, hoofs, bones, etc. The offal is said to be carted away. About 25 calves per month are killed, and the meat is peddled from carts. The inspector comes when sent for and stamps the meat. The odor of putrefying meat is perceptible for a long distance from the barn. There is no water supply, and no cleaning is attempted.

164. Slaughtering done in a barn near village, in a room 8 by 10 feet. About 25 calves per month is the average. There is a cellar below, in which are hogs which eat the offal. The killing room is fairly well cleaned with water from a hose, but considerable decomposing matter exists about the place, and there is a strong odor therefrom in the vicinity. The meat goes to market in Stockbridge.

Taunton.

165. Hog-killing house back of the barn, with kettle and scalding tank and table. Area, 30 by 15 feet. Although this place is licensed, no business has been done for two or three years. In the autumn it is let for butchering calves and hogs. The building is dilapidated, and has not been cleaned for a long time.

166. *D. Beauvais.* — A few pigs and an occasional calf are killed in the yard. No sign of slaughtering observed on the day of inspection.

167. Building, 40 by 20 feet, put up for slaughtering purposes, and fairly well built for the business. The water supply is derived from a well outside. There is a trap door in the centre of the killing room, communicating with a shallow cellar, in which only the blood of the animals is discharged. But little butchering is now done at this place, —

only 6 to 8 calves per month. The inspector comes when sent for and stamps the meat.

Although the centre of the killing floor showed evidence of being recently washed, the walls were covered with old blood and dirt.

168. Slaughtering done in a barn on the outskirts of the town. The killing floor, which is of loose boards, is 11 by 9 feet. From 25 to 40 calves per month and an occasional cow are killed. The offal is pushed out of doors and afterward is buried. No cleaning is done, and the floors, walls and utensils were all found to be in a very dirty condition. On the day of inspection, 1 very small calf was being dressed and a still smaller one was tied outside. It was claimed that this was to be fattened before slaughter.

Watertown.

169. *Bleiler.* — Described and commended in June "Bulletin."

Westfield.

170. Building, 20 by 14 feet, in rear of barn. Twelve to 16 calves per month slaughtered on a rough board floor, which communicates by means of a trap door with a cellar, in which hogs are kept. The cellar is wet and muddy. The water supply is derived from a brook near by, and although some water is used, the floor is not thoroughly cleaned, and the walls are not cleaned at all. Offal is given to the hogs.

Westford.

171. Space 25 feet square, in the end of a barn. Floor covered to a depth of several inches in places with a mixture of blood, manure, hair and grease. Walls and ceiling nearly as bad. No cleaning is done, and the place is very foul smelling. The cellar beneath the killing floor extends to a pigpen in the yard, and this is filled to a depth of over a foot with slimy material, manure and liquid matter, in which the pigs have difficulty in getting about. About 20 calves per week, and in winter some cows, are killed. Hoofs, heads, etc., are said to be carted away.

West Newbury.

172. Shed, 20 by 12 feet, used as a slaughterhouse, where 10 to 20 cattle are killed each week. The meat is supplied to local butchers and to a provision company in Haverhill. Although the place is said to be cleaned after using, it was found to be in very dirty condition, and everything covered with flies and foul smelling. The offal is carted away to a pigpen in the woods. Fat, bones, etc., are sold to a soap company in Haverhill.

Weston.

173. *H. Zoller.* — Room, 28 by 18 feet, with sloping floor, in a barn. The shallow cellar beneath is empty and dry. Twenty to 30 cattle and calves per month are killed. The blood goes into a box on the ground outside the killing room and thence is carted away and buried. The floor is thoroughly cleaned with water from a well, but the walls, tables and benches are not clean and are covered with clotted blood. The conditions in and about this house are better than the average, and the barn, as a whole, is fairly well cleaned. All of the meat is inspected before removal, and is inspected a second time by officials in Boston, to which city it goes.

Westport.

174. Calves killed in an annex of the barn; area, 20 by 20 feet. It has a fairly good floor, with a hole, through which any blood and offal go to the cellar. The floor is not cleaned, but it is sprinkled with sand which covers up the blood, etc., and the accumulation is carted out from time to time. About 20 calves per month are killed. The offal and bones go to the pigs in the cellar. The cellar is full of wet, slushy manure and portions of carcasses. The slaughterhouse itself is whitewashed and not in very bad condition.

175. Stone building put up many years ago for slaughtering purposes. It contains large refrigerators and closed pens, in which animals were formerly confined. The slaughtering room, 35 by 40 feet, is used by butchers from Fall River. It has a rough board floor, sloping to one end, where the offal is pushed out into the yard. The floor is not cleaned at all, and everything is bloody and dirty and covered with manure. Several barrels containing putrefying intestines, said to have been saved for sausage casings and then allowed to spoil, were observed. The offal is fed to swine.

176. *Isaac Tripp.* — Slaughtering carried on on the floor of the barn, which has a good cellar beneath, well lighted, of good height and fairly dry. All offal goes into this cellar, where it is fed to swine. The manure is mixed with cotton waste. On the day of inspection there were five good sized veal carcasses hung up to cool, and the place had been well washed, and but little staining of woodwork anywhere was seen. General condition excellent.

177. *Joshua Wordell.* — Only a few calves are killed on the floor of what is an ordinary cow barn. The floor is kept clean, and shows little evidence of the business.

Westwood.

178. *A. B. Colburn.* — Between November and March, about 100 hogs and a few calves are killed in a section of the barn which is used for the meat business all the year round. It is a clean and well-kept place, and shows no signs of the slaughtering industry. Meat carts, refrigerator, benches, etc., were found to be in a clean condition, and protected by burlap from flies. Under part of the building there is a cellar, in which 2 hogs are kept in the summer only. During the killing season the offal is carried away and buried. General conditions are excellent.

Weymouth.

179. *F. W. Hocking.* — About 25 calves per year are killed on a wagon-shed floor having an area of 20 by 30 feet. All refuse is disposed of. When slaughtering is carried on, the inspector comes and stamps the meat. The place is kept in clean condition, and shows little evidence of butchering. General conditions are excellent.

Whately.

180. Slaughterhouse, 15 by 15 feet, situated in a barn. This room, which is partitioned off and floored, beside being used for slaughtering, contains harnesses, tools and cattle feed. The animals slaughtered are calves and hogs. The offal is buried on the farm. Hides, hoofs, etc., are sold. The place is not very clean.

Whitman.

181. *C. R. Dickerman.* — Slaughterhouse in a barn and wagon shed near village. The killing floor, 12 by 8 feet, slopes, and has two holes for the escape of blood and water, which go into troughs leading into the garden. From 10 to 20 calves per month and about 12 sheep, 12 hogs and 10 cattle per year are killed. The local inspector examines and stamps the meat. The offal is carted away and buried. The bones and heads are sold. The floor of the slaughterhouse is washed clean, and the place shows not much evidence of the butchering business. General conditions are excellent.

Wilbraham.

182. *W. C. Savage.* — Building, 30 by 30 feet, with fairly good floor and a hole at one end, through which the offal is discharged to hogs in a pen outside. About 40 cows and calves per month are said to be slaughtered. Water is obtained from a well in the yard and the place is kept in a cleanly condition.

Williamstown.

183. Building, 25 by 50 feet, with room, 25 by 30 feet, which has a sloping floor and a wooden drain in the centre. About 25 calves per month and 250 cows per year are killed here. The offal is fed to hogs in the field. What water is used is brought from the brook in pails. The place is cleaned with a broom, but the floor and walls are covered with old blood and dirt. An inspector is sent for when needed. The place in general is dirty and foul smelling.

184. New building, about one-third of a mile from a dwelling house. Killing room, 22 by 12 feet. About 600 sheep, calves and cows are killed each month. Most of the meat goes to North Adams.

There is a small moveable platform, about 6 inches high, used to keep the carcasses from contact with the blood, etc., on the floor during the process of skinning and dressing. The water supply is derived from a driven well and is pumped into the room. A broom and bucket are used in cleaning up. The walls are not clean, and are covered half way to the ceiling on one side with clotted blood and dirt.

Hides are salted in the loft overhead, and the rest of the building, having an area of 22 by 28 feet, is used for cattle pens and refrigerator, — the latter 10 by 12 feet.

The offal is thrown into the hogpen from one side of the killing room. The heads and bones are boiled in a kettle outside and then given to hogs. The blood runs into a trough in the hogpen, where it is eaten.

In general, the conditions are fair, but the process of cleaning is not sufficiently thorough.

Windsor.

185. Slaughtering is done on a portion, 30 by 14 feet, of a barn floor. This has sawdust sprinkled over it to cover up the dirt and blood. From 16 to 25 sheep, calves and cows are killed here each month. Outside, in a dirty wet pen, hogs eat the offal. The heads are thrown into the bushes behind the barn, where they decompose and create a strong stench. Sometimes, on complaint of neighbors, lime is sprinkled about. The inspector calls and stamps the meat when sent for.

186. A few calves are killed in the corner of a horse stall. The place is pretty well cleaned up, and the offal is carted away and disposed of. There is a slaughterhouse over a mile away in a shed on a deserted farm. It has a floor, 20 by 14 feet, sloping to the centre to a wooden gutter. Offal and heads are scattered about the field in the vicinity for crows to eat. The surface of the floor is brushed off with the stump of a broom, but no other cleaning is done. There is no water

supply. A number of animals, varying from 10 to 30 per month, according to the supply, are slaughtered here. Part of the meat is sent to Pittsfield.

Worcester.

187. One end of a barn, 50 by 20 feet, made over into a slaughter-house, with a trap door to cellar below. No hogs are kept in the cellar, owing to objection by the board of health. About 100 cows and calves are slaughtered each month by different butchers. The inspector stamps the meat.

The place has recently been whitewashed, and now whitewash is used every week to cover up the dirt. The place is dirty and littered with scraps of viscera and other filth, and swarms with flies. When visited, heads, bones, hides and a barrel full of putrefying intestines were standing, awaiting the wagon of a rendering company. Some of the offal is fed to hogs kept in a pen outside. The refrigerator, 35 by 12 feet, is in fair condition.

188. *H. R. King.* — Slaughtering floor, 12 by 16 feet, in a building formerly used as a barn. Trap door opens to a cellar beneath. Hogs are kept outside.

The centre of the floor shows recent washing and lime is used as a deodorant. A few old heads, bones and some offal were observed on the floor. Hides and hams are kept in side rooms. Refrigerator, 12 by 6 feet, was empty. Not much slaughtering is done at this place in summer, but in other seasons from 30 to 40 cows are killed each month, as well as a few calves and sheep. The water supply is derived from a spring outside. The offal is given to hogs or buried. When killing is done, an inspector is sent for. On the day of inspection the place was in fair condition.

189. *George J. Wiegert.* — End of a barn made into a good slaughter-house, 25 by 30 feet, with a sloping floor to trap door in the centre. The cellar beneath has a stone and cement floor. Refrigerator, 10 by 12 feet, at time of visit was empty. From 20 to 30 calves and 15 cows per month are killed. After use, the floor is washed clean, and the premises in general are clean.

Worthington.

190. Building, 20 by 16 feet, built of slabs. It has a rough wooden floor, with a hole on one side, through which offal is pushed out to hogs in the hogpen outside. In this pen is a foot of mud, and from time to time hay is thrown in to cover it. Hides are salted on the floor, which is cleaned a little with a broom and with water caught in a barrel when it rains. About 20 cows, 16 lambs and 10 calves are killed

each month. The building is far from clean. The owner keeps a fairly clean market, and peddles meat from a wagon. The inspector is sent for when needed.

ACETANILID PREPARATIONS.

In a recent number of the "Boston Herald," the following account of the result of taking a much-advertised proprietary preparation appeared: —

DOSED AND DIED. — END FOLLOWS CURE FOR HEADACHE. — SWALLOWED IN NIGHT. — FRITZ STERNBERG OF JAMAICA PLAIN WAS THE VICTIM.

Thirty minutes after taking a dose of a popular headache cure, last night, Fritz Sternberg, of 103 Brookside Avenue, Jamaica Plain, was dead. Under the circumstances, Dr. McCue of Peter Parley road, the attending physician, concluded it best to notify Medical Examiner Macdonald, who ordered the removal of the body to the City Hospital morgue for an autopsy this afternoon.

Sternberg lived with his wife and a large family of children, and was employed in the car shops of the New York, New Haven & Hartford Railroad at Norwood. He was a Russian Jew. Last night, not feeling in the best of health, he retired early, but about 10.30 got up, took the dose, and within thirty minutes died.

Dr. McCue was called, and, when he learned that Sternberg had taken the medicine, decided to notify the medical examiner.

Mrs. Sternberg claims her husband had never complained of heart trouble, and she had never supposed that he was afflicted with such weakness.

The medicine in question has figured in sudden deaths before, the base being acetanilid, one of the most powerful heart depressants on the market.

On inquiry of the attending physician as to the name of the preparation taken, information was received that it was Bromo Seltzer. The composition of this substance was given in the February "Bulletin," and cases of poisoning due to its principal active ingredient, either alone or in Bromo Seltzer or other similar preparations, have been presented in the February, March, April and May issues.

Concerning Bromo Seltzer and another acetanilid preparation known as Orangeine, the "Journal of the American Medical Association," of Aug. 4, 1906, says: —

Acetanilid is concealed in many proprietary and patent preparations that are freely sold to the public without a physician's prescription. One of the commonest offenders, especially among educated people, is bromo-seltzer, as

the name is misleading, and it is not generally known that the preparation contains such a relatively large proportion of acetanilid.

Another well-known and pernicious preparation that has several deaths to answer for is orangeine. It is in the form of headache powder, and is extensively advertised in the daily papers and in a familiar street-car advertisement, showing two faces, intended to represent "before" and "after" taking; one a cerulean blue, the other with the rosy blush of health. If the manufacturers would reverse these two faces and add a skull and crossbones to the advertisement, they would give the public a more correct idea of the true nature of their deadly preparation.

During the past month, the following preparations, sold locally, have been examined in the laboratory of the Board, and found to be composed in part of acetanilid: —

Headache Powders, William L. Sweet, Boston.
Hawthorn's Cold Powders.
Woodward's Laxative Cold Cure.
Dr. Holbrook's Kola Powders.
Headache Powders, F. H. Putnam Co., Boston.
Klein's Kold Kapsules.

PROPRIETARY PREPARATIONS UNSALABLE IN MASSACHUSETTS.

During the month of September, the following preparations containing cocaine were advertised by the Board, under the provisions of chapter 386 of the Acts of 1906, and their sale is, therefore, no longer permissible: —

Crown Catarrh Powder.
Dr. Agnew's Catarrh Powder.
Dr. Cole's Catarrh Cure.
I. C. R. Instant Catarrh Relief.
Prentzinger's Catarrh Balsam.

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WEEKLY RETURNS OF DEATHS FROM CITIES AND TOWNS OF MORE THAN 10,000 POPULATION.

WEEK ENDING OCT. 6, 1906.

CITIES AND TOWNS.	Population.[1] Estimated for 1906.	Reported Deaths in Each.	Deaths under Five Years.	DEATHS FROM—					
				Principal Infectious Diseases.	Acute Lung Diseases.	Phthisis.	Diphtheria.	Typhoid Fever.	Measles.
Boston,	602,528	227	70	58	28	25	2	4	–
Worcester,	130,171	48	16	6	6	4	–	–	–
Fall River,	105,943	38	21	14	3	4	–	1	–
Cambridge,	98,583	23	7	4	2	2	–	1	–
Lowell,	94,889	29	9	9	3	4	2	1	–
Lynn,	78,871	23	10	4	1	2	–	–	–
New Bedford,	77,006	16	8	5	1	3	–	1	–
Springfield,	76,255	18	8	2	–	1	–	–	–
Lawrence,	71,653	27	13	15	3	6	–	–	–
Somerville,	70,908	20	13	5	–	1	–	–	–
Holyoke,	50,824	14	9	6	1	2	–	–	–
Brockton,	49,511	13	3	1	1	1	–	–	–
Malden,	38,978	16	4	4	2	2	1	1	–
Salem,	37,970	19	4	2	–	–	2	–	–
Chelsea,	37,968	9	4	1	–	–	–	–	–
Haverhill,	37,962	9	2	–	1	–	–	–	–
Newton,	37,512	7	1	1	–	–	–	1	–
Fitchburg,	33,327	10	2	2	–	2	–	–	–
Taunton,	30,967	7	3	–	1	–	–	–	–
Everett,	30,173	6	5	2	–	–	2	–	–
Quincy,	28,995	7	3	1	1	1	–	–	–
Waltham,	26,881	7	2	3	–	3	–	–	–
Gloucester,	26,011	5	–	–	–	–	–	–	–
Pittsfield,	25,704	4	–	–	–	–	–	–	–
Brookline,	24,207	7	1	–	1	–	–	–	–
North Adams,	22,150	9	1	3	–	3	–	–	–
Chicopee,	20,402	7	4	1	–	1	–	–	–
Northampton,	20,175	4	0	1	–	1	–	–	–
Medford,	19,988	10	3	1	–	–	–	–	–
Beverly,	15,506	5	1	1	–	1	–	–	–
Hyde Park,	14,784	4	3	2	–	–	1	–	–
Newburyport,	14,715	–	–	–	–	–	–	–	–
Leominster,	14,712	5	–	1	–	–	1	–	–
Melrose,	14,578	2	0	1	–	–	–	1	–
Woburn,	14,432	4	–	2	–	2	–	–	–
Marlborough,	14,168	6	1	1	–	1	–	–	–
Westfield,	13,887	–	–	–	–	–	–	–	–
Peabody,	13,438	–	–	–	–	–	–	–	–
Revere,	13,168	3	1	–	–	–	–	–	–
Clinton,	13,105	3	1	–	–	–	–	–	–
Attleborough,	12,995	2	0	–	–	–	–	–	–
Adams,	12,775	2	–	–	–	–	–	–	–
Gardner,	12,267	0	–	–	–	–	–	–	–
Milford,	12,256	8	2	1	1	–	–	1	–
Weymouth,	11,638	6	1	1	1	1	–	–	–
Framingham,	11,598	–	–	–	–	–	–	–	–
Watertown,	11,597	1	1	–	–	–	–	–	–
Plymouth,	11,452	–	–	–	–	–	–	–	–
Southbridge,	11,206	5	2	3	–	–	–	1	–
Wakefield,	10,476	1	–	–	–	–	–	–	–
Webster,	10,280	–	–	–	–	–	–	–	–
Recapitulation.									
Total of reporting towns,	2,229,613	696	239	164	57	73	11	13	–

[1] The populations were estimated upon the rate of growth from 1900 to 1905. Those of Lowell, Taunton, Gloucester, North Adams and Clinton were allowed to stand as in 1905, having shown no increase during the five-year period.

WEEK ENDING OCT. 13, 1906.

CITIES AND TOWNS.	Population. Estimated for 1906.	Reported Deaths in Each.	Deaths under Five Years.	DEATHS FROM— Principal Infectious Diseases.	Acute Lung Diseases.	Phthisis.	Diphtheria.	Typhoid Fever.	Measles.
Boston,	602,528	178	42	31	20	15	1	3	–
Worcester,	130,171	41	8	8	5	4	2	–	–
Fall River,	105,943	36	19	19	3	4	–	1	–
Cambridge,	98,583	32	11	10	4	5	–	2	–
Lowell,	94,889	31	12	7	–	2	2	–	–
Lynn,	78,871	28	9	4	2	2	–	–	–
New Bedford,	77,006	22	11	1	1	–	–	1	–
Springfield,	76,255	27	5	7	2	3	2	–	–
Lawrence,	71,653	27	14	10	2	3	2	–	–
Somerville,	70,908	29	9	5	2	1	–	–	–
Holyoke,	50,824	13	5	3	1	2	1	–	–
Brockton,	49,511	18	8	3	1	1	–	1	–
Malden,	38,978	13	5	2	1	1	–	1	–
Salem,	37,970	16	3	5	1	2	–	2	–
Chelsea,	37,968	12	7	2	1	2	–	–	–
Haverhill,	37,962	11	2	2	–	1	–	–	–
Newton,	37,512	9	–	1	–	1	–	–	–
Fitchburg,	33,327	6	4	–	–	–	–	–	–
Taunton,	30,967	7	2	1	–	–	–	1	–
Everett,	30,173	7	1	1	–	1	–	–	–
Quincy,	28,995	8	1	1	–	1	–	–	–
Waltham,	26,881	6	2	2	–	1	1	–	–
Gloucester,	26,011	–	–	–	–	–	–	–	–
Pittsfield,	25,704	–	–	–	–	–	–	–	–
Brookline,	24,207	5	1	–	1	–	–	–	–
North Adams,	22,150	1	0	–	–	–	–	–	–
Chicopee,	20,402	9	6	4	–	–	–	–	–
Northampton,	20,175	8	3	1	–	–	1	–	–
Medford,	19,988	5	–	1	–	–	–	1	–
Beverly,	15,506	2	–	–	–	–	–	–	–
Hyde Park,	14,784	2	1	1	–	–	1	–	–
Newburyport,	14,715	–	–	–	–	–	–	–	–
Leominster,	14,712	8	2	1	–	–	1	–	–
Melrose,	14,578	5	0	1	–	1	–	–	–
Woburn,	14,432	2	2	1	–	–	–	–	–
Marlborough,	14,168	2	1	–	–	–	–	–	–
Westfield,	13,887	–	–	–	–	–	–	–	–
Peabody,	13,438	–	–	–	–	–	–	–	–
Revere,	13,168	2	–	–	–	–	–	–	–
Clinton,	13,105	–	–	–	–	–	–	–	–
Attleborough,	12,995	1	1	–	–	–	–	–	–
Adams,	12,775	2	–	2	–	–	1	–	–
Gardner,	12,267	–	–	–	–	–	–	–	–
Milford,	12,256	5	–	2	–	2	–	–	–
Weymouth,	11,638	1	0	–	–	–	–	–	–
Framingham,	11,598	6	1	1	–	1	–	–	–
Watertown,	11,597	2	1	–	–	–	–	–	–
Plymouth,	11,452	–	–	–	–	–	–	–	–
Southbridge,	11,206	4	1	1	–	1	–	–	–
Wakefield,	10,476	3	–	–	–	–	–	–	–
Webster,	10,280	–	–	–	–	–	–	–	–
Recapitulation.									
Total of reporting towns,	2,163,791	652	200	141	47	57	15	13	–

WEEK ENDING OCT. 20, 1906.

CITIES AND TOWNS.	Population. Estimated for 1906.	Reported Deaths in Each.	Deaths under Five Years.	DEATHS FROM—					
				Principal Infectious Diseases.	Acute Lung Diseases.	Phthisis.	Diphtheria.	Typhoid Fever.	Measles.
Boston,	602,528	206	63	41	23	15	5	5	–
Worcester,	130,171	53	16	9	1	3	1	1	–
Fall River,	105,943	28	18	10	–	3	–	–	–
Cambridge,	98,583	28	7	4	4	3	1	–	–
Lowell,	94,889	37	15	5	4	4	1	–	–
Lynn,	78,871	24	5	2	2	–	–	–	–
New Bedford,	77,006	21	8	3	3	3	–	–	–
Springfield,	76,255	16	4	2	–	–	1	–	–
Lawrence,	71,653	22	9	6	5	1	–	–	–
Somerville,	70,908	21	9	4	2	1	2	–	–
Holyoke,	50,824	20	9	3	2	1	–	–	–
Brockton,	49,511	4	1	2	1	–	1	1	–
Malden,	38,978	5	2	2	–	–	–	1	–
Salem,	37,970	16	4	–	–	–	–	–	–
Chelsea,	37,968	14	6	2	3	–	–	–	–
Haverhill,	37,962	9	4	1	–	1	–	–	–
Newton,	37,512	7	1	–	–	–	–	–	–
Fitchburg,	33,327	11	2	1	2	1	–	–	–
Taunton,	30,967	10	3	1	3	–	–	–	–
Everett,	30,173	8	4	4	–	1	1	–	–
Quincy,	28,995	5	2	1	–	–	–	–	–
Waltham,	26,881	4	–	–	–	–	–	–	–
Gloucester,	26,011	–	–	–	–	–	–	–	–
Pittsfield,	25,704	–	–	–	–	–	–	–	–
Brookline,	24,207	6	2	–	–	–	–	–	–
North Adams,	22,150	6	0	1	–	–	–	1	–
Chicopee,	20,402	5	3	2	–	2	–	–	–
Northampton,	20,175	7	1	–	1	–	–	–	–
Medford,	19,988	4	–	–	–	–	–	–	–
Beverly,	15,506	1	–	–	–	–	–	–	–
Hyde Park,	14,784	2	–	–	–	–	–	–	–
Newburyport,	14,715	–	–	–	–	–	–	–	–
Leominster,	14,712	1	–	–	–	–	–	–	–
Melrose,	14,578	10	2	1	–	1	–	–	–
Woburn,	14,432	9	2	–	–	–	–	–	–
Marlborough,	14,168	5	3	1	–	–	–	–	–
Westfield,	13,887	–	–	–	–	–	–	–	–
Peabody,	13,438	–	–	–	–	–	–	–	–
Revere,	13,168	–	–	–	–	–	–	–	–
Clinton,	13,105	3	0	–	–	–	–	–	–
Attleborough,	12,995	2	1	1	–	–	–	–	–
Adams,	12,775	0	–	–	–	–	–	–	–
Gardner,	12,267	–	–	–	–	–	–	–	–
Milford,	12,256	5	–	1	–	1	–	–	–
Weymouth,	11,638	3	2	1	–	1	–	–	–
Framingham,	11,598	3	–	–	–	–	–	–	–
Watertown,	11,597	6	3	3	–	2	–	–	–
Plymouth,	11,452	–	–	–	–	–	–	–	–
Southbridge,	11,206	1	–	1	–	1	–	–	–
Wakefield,	10,476	–	–	–	–	–	–	–	–
Webster,	10,280	–	–	–	–	–	–	–	–

Recapitulation.

Total of reporting towns,	2,140,147	648	211	115	56	45	13	9	–

WEEK ENDING OCT. 27, 1906.

CITIES AND TOWNS.	Population. Estimated for 1906.	Reported Deaths in Each.	Deaths under Five Years.	DEATHS FROM— Principal Infectious Diseases.	Acute Lung Diseases.	Phthisis.	Diphtheria.	Typhoid Fever.	Measles.
Boston,	602,528	204	47	33	36	18	–	5	–
Worcester,	130,171	33	10	3	2	1	–	–	–
Fall River,	105,943	36	19	6	4	2	–	–	–
Cambridge,	98,583	22	9	6	1	2	–	1	–
Lowell,	94,889	29	10	5	3	1	2	–	–
Lynn,	78,871	19	6	2	–	–	–	–	–
New Bedford,	77,006	23	6	8	1	6	–	–	–
Springfield,	76,255	20	2	4	1	2	–	2	–
Lawrence,	71,653	23	7	5	1	3	1	–	–
Somerville,	70,908	27	6	4	5	3	–	1	–
Holyoke,	50,824	9	5	1	–	1	–	–	–
Brockton,	49,511	14	4	4	1	1	–	1	–
Malden,	38,978	10	4	1	1	1	–	–	–
Salem,	37,970	14	2	2	2	1	–	1	–
Chelsea,	37,968	13	7	1	2	1	–	–	–
Haverhill,	37,962	10	2	–	2	–	–	–	–
Newton,	37,512	4	3	–	1	–	–	–	–
Fitchburg,	33,327	8	4	1	–	1	–	–	–
Taunton,	30,967	12	4	1	3	–	–	–	–
Everett,	30,173	7	1	–	–	–	–	–	–
Quincy,	28,995	4	3	–	–	–	–	–	–
Waltham,	26,881	4	2	–	–	–	–	–	–
Gloucester,	26,011	–	–	–	–	–	–	–	–
Pittsfield,	25,704	4	–	–	–	–	–	–	–
Brookline,	24,207	6	2	–	–	–	–	–	–
North Adams,	22,150	3	0	1	–	1	–	–	–
Chicopee,	20,402	2	1	2	–	1	–	–	–
Northampton,	20,175	15	3	2	2	1	1	–	–
Medford,	19,988	5	1	–	1	–	–	–	–
Beverly,	15,506	3	2	1	–	1	–	–	–
Hyde Park,	14,784	3	1	–	–	–	–	–	–
Newburyport,	14,715	–	–	–	–	–	–	–	–
Leominster,	14,712	1	–	–	–	–	–	–	–
Melrose,	14,578	6	0	–	1	3	–	–	–
Woburn,	14,432	4	1	2	–	2	–	–	–
Marlborough,	14,168	2	0	–	–	–	–	–	–
Westfield,	13,887	–	–	–	–	–	–	–	–
Peabody,	13,438	–	–	–	–	–	–	–	–
Revere,	13,168	2	1	–	1	–	–	–	–
Clinton,	13,105	2	0	–	–	–	–	–	–
Attleborough,	12,995	3	1	–	–	–	–	–	–
Adams,	12,775	4	1	–	1	–	–	–	–
Gardner,	12,267	11	2	3	–	1	1	–	–
Milford,	12,256	3	–	2	–	–	–	–	–
Weymouth,	11,638	2	0	–	–	–	–	–	–
Framingham,	11,598	–	–	–	–	–	–	–	–
Watertown,	11,597	1	0	–	1	–	–	–	–
Plymouth,	11,452	–	–	–	–	–	–	–	–
Southbridge,	11,206	6	3	2	–	–	1	–	–
Wakefield,	10,476	3	–	–	–	–	–	–	–
Webster,	10,280	–	–	–	–	–	–	–	–
Recapitulation.									
Total of reporting towns,	2,190,164	636	182	102	73	54	6	11	–

WEEKLY RETURNS OF DEATHS FROM CERTAIN INFECTIOUS DISEASES.

DEATHS FROM INFECTIOUS DISEASES NOT SPECIFICALLY MENTIONED IN ABOVE TABLES DURING THE WEEKS OF OCT. 6, 13, 20 AND 27, 1906.

DISEASE.	Place.	WEEK ENDING—			
		Oct. 6.	Oct. 13.	Oct. 20.	Oct. 27.
Cerebro-spinal meningitis,	Boston,	3	1	1	1
	Worcester,	1	–	–	1
	Lynn,	1	1	2	1
	Fall River,	–	1	–	–
	Haverhill,	–	1	–	–
	Everett,	–	–	1	–
	Watertown,	–	–	1	–
	Lowell,	–	–	–	1
	Cambridge,	–	–	–	1
	Brockton,	–	–	–	1
	Gardner,	–	–	–	1
Scarlet fever,	Boston,	–	1	–	–
	Lowell,	–	–	–	1
	New Bedford,	1	–	–	–
	Chicopee,	–	2	–	–
Whooping cough,	Boston,	2	1	1	–
	Chicopee,	–	1	–	–
	Everett,	–	–	1	–
	Holyoke,	3	–	1	–
	Fall River,	–	–	1	–
	Cambridge,	1	1	–	–
	Lawrence,	1	1	2	–
	Somerville,	1	–	–	–
	Hyde Park,	1	–	–	–
	Springfield,	1	–	–	–
	Brockton,	–	1	–	1
	Salem,	–	1	–	–
	Worcester,	–	–	1	–
	Malden,	–	–	1	–
Malarial fever,	Boston,	1	–	–	–

WEEKLY RETURNS OF CASES OF INFECTIOUS DISEASES.

CASES OF INFECTIOUS DISEASES REPORTED DURING THE WEEKS OF OCT. 6, 13, 20 AND 27, 1906.

[Under the provisions of section 52 of chapter 75 of the Revised Laws.]

	Week ending —			
	Oct. 6.	Oct. 13.	Oct. 20.	Oct. 27.
Diphtheria,	224	255	318	253
Measles,	8	4	10	6
Scarlet fever,	91	108	107	97
Typhoid fever,	154	144	116	113
Cerebro-spinal meningitis,	1	–	2	1
Hydrophobia,	1	–	–	–

MONTHLY REPORT ON INSPECTION OF FOOD AND DRUGS.

The following summary presents the results of the examinations of food and drugs made by the State Board of Health during the month of October, 1906: —

Articles examined.	Number found to be of Good Quality.	Number adulterated or varying from the Legal Standard.	Total.	Articles examined.	Number found to be of Good Quality.	Number adulterated or varying from the Legal Standard.	Total.
Milk,	90	106	196	Meats,	9	–	9
Butter,	5	–	5	Hamburg steak,	1	–	1
Canned tomato bouillon,	1	–	1	Sausages,	7	1	8
Canned plum pudding,	1	–	1	Tripe,	–	1	1
Chili sauce,	–	1	1	Molasses,	7	–	7
Cheese,	2	–	2	Pickles,	3	–	3
Clams,	2	–	2	Salad dressing,	1	1	2
Cocoa,	2	–	2	Scallops,	2	–	2
Coffee,	2	–	2	Shrimps,	–	2	2
Confectionery,	2	–	2	Spices,	20	1	21
Condensed milk,	–	1	1	Syrups,	1	–	1
Cream,	4	–	4	Table sauces,	2	–	2
Cream of tartar,	5	–	5	Non-alcoholic drinks,	1	–	1
Honey,	3	–	3	Vinegar,	7	6	13
Jams and jellies,	3	–	3	Drugs,	71	19	90
Maple syrup,	1	–	1	Total,	255	139	394

The samples of drugs found to be adulterated were: oleum amygdalæ dulcis, oleum olivæ, spiritus camphoræ, tinctura iodi, and several proprietary preparations.

The cities and towns in which samples were collected were: Athol, Attleborough, Boston, Brookline, Cambridge, Chelsea, Dedham, Everett, Framingham, Fitchburg, Gardner, Greenfield, Holyoke, Malden, Natick, Newton, North Attleborough, North Adams, Orange, Peabody, Reading, Somerville, Salem, Springfield, South Framingham, Waltham, Watertown, Weymouth, Wellesley, Westwood and Woburn.

PROSECUTIONS FOR VIOLATIONS OF THE LAW RELATING TO FOOD AND DRUGS.

Thirty-two convictions were secured during the month of October, 1906, for selling adulterated food and drugs and prohibited patent medicines, as follows: —

No.	Name of Defendant.	Place.	Character of Article sold.
1	Henry Arsenault,	Athol,	Olive oil.
2	William E. Taft,	Athol,	Milk.
3	Robert J. Murray,	Arlington,	Milk.
4	John E. Anderson,	Attleborough,	Milk.
5	Fred P. Cooper,	Attleborough,	Milk.
6	Orren H. Keith,	Attleborough,	Milk.
7	Edwin S. Watson,	Boston,	Tomato okra soup.
8	Joel H. Houlton,	Boston,	Royal tartar sauce.
9	William T. Holland, M.D.,	Boston,	Dr. Agnew's catarrh powder.[1]
10	Albert A. White,	Boston,	Shrimps.
11	Frank E. Hurd,	Boston,	Crown catarrh powder.[1]
12	Benj. F. Thomas,	Boston,	Shrimp.
13	Frank E. Hurd,	Boston,	Instant catarrh relief.[1]
14	Frank E. Hurd,	Boston,	Instant catarrh relief.[1]
15	Calvin F. Gibbs,	Boston,	Borax.
16	Calvin F. Gibbs,	Boston,	Extract witch hazel.
17	William H. Smith,	Boston,	Chili sauce.
18	H. S. Litchfield,	Boston,	Shrimp.
19	B. M. Gove and S. F. Mollins,	Boston,	Shrimp.
20	Samuel Goldenberg,	Cambridge,	Vinegar.
21	William Stopford,	Salem,	Shrimp.
22	Sidney A. Richards,	Springfield,	Tincture iodine.
23	Harry P. Elsey,	Springfield,	Tincture iodine.
24	William H. Bagg,	Springfield,	Milk.
25	Fred. H. Talcott,	South Framingham,	Witch hazel.
26	Chas. L. Curtis,	South Framingham,	Witch hazel.
27	Willard Warren,	Waltham,	Milk.
28	Geo. W. Russell,	Waltham,	Milk.
29	Edward G. Gould,	Waltham,	Milk.
30	Gardner A. Teelle,	Waltham,	Milk.
31	John Defern,	Westwood,	Milk.
32	John Defern,	Westwood,	Milk.

[1] Cocaine preparations.

Amount of fines, $690.

LIST OF ADULTERATED FOOD, ETC., FOR OCTOBER, 1906.

Number of Sample.	Character of Sample.	Brand, or Name of Manufacturer, Wholesaler or Producer.	Results of Analyses.
2004 M,	Milk,	Albert C. Batchelder, Danvers,	10.82 per cent. total solids; contained added water.
6131 N,	Milk,	Joseph A. Geddis, North Adams,	11.26 per cent. total solids; contained added water.
6155 N,	Milk,	W. H. Freeman, North Adams,	11.22 per cent. total solids; contained added water.
4132	Milk,	John A. Porter, Woburn,	10.24 per cent. total solids; contained added water.
2022 M,	Milk,	Hosea M. Brown, Orange,	10.11 per cent. total solids; contained added water.
2024 M,	Milk,		9.94 per cent. total solids; contained added water.
2026 M,	Milk,		10.37 per cent. total solids; contained added water.
2028 M,	Milk,		10.26 per cent. total solids; contained added water.
2030 M,	Milk,		10.20 per cent. total solids; contained added water.
2032 M,	Milk,		10.27 per cent. total solids; contained added water.
2034 M,	Milk,		10.44 per cent. total solids; contained added water.
2036 M,	Milk,		10.40 per cent. total solids; contained added water.
1976 M,	Chili sauce,	Virginia Pure Food Company, Kinsale, Va.,	Preserved with benzoic acid.
4125	Mace,	B. Fischer & Co., New York,	Contained 25 per cent. wild mace.
6303 N,	Olive oil,	G. W. Russell & Co., North Adams,	Contained 80 per cent. sesame oil.
6217 N,	Olive oil,	Henry Arsenault, Athol,	Contained 40 per cent. sesame oil.
6299 N,	Olive oil,	Geo. G. Leathe, Gardner,	Consisted of cotton-seed oil.
6301 N,	Spirits of camphor,		35 per cent. of required strength.
6297 N,	Spirits of camphor,	Roy E. Mayo, Gardner,	70 per cent. of required strength.
6161 N,	Spirits of camphor,	Wilson House Drug Store, North Adams,	50 per cent. of required strength.
6183 N,	Spirits of camphor,	C. A. Pinsonhault, North Adams,	45 per cent. of required strength.
4026	Pretzinger's Catarrh Balm.	R. Pretzinger & Bro., Dayton, O.,	Contained cocaine.
1962 M,	Dr. Cole's Catarrh Cure,	The Cole Medicine Co., London, N. Y., Chicago,	Contained cocaine.
A 207,	"Specific for Asthma, Hay Fever, and all Catarrhal Diseases of the Respiratory Organs."	Nathan Tucker, M.D., Mt. Gilead, O.,	Contained cocaine.
4179	The Allenbury's Throat Pastilles.	Allen & Hanburys, Ltd., London,	Contained cocaine.
4180	Compressed Pill Creosote Comp.	John Wyeth & Bro., Philadelphia, Pa.,	Contained cocaine.

INSPECTION OF DAIRIES.

During the month of October, 1906, 306 dairies were examined in the following places: —

Place.	Number examined.	Number found to present no Objectionable Features.	Per Cent.	Number to which Letters were sent.	Per Cent.
Ashburnham,	13	1	7.69	12	92.31
Barre,	87	33	37.93	54	62.07
Fitchburg,	63	17	26.98	46	73.02
Gardner,	32	10	31.25	22	68.75
Hadley,	24	3	12.50	21	87.50
Lunenburg,	1	–	–	1	–
Malden,[1]	18	12	66.67	6	33.33
Petersham,	1	–	–	1	–
Templeton,	18	5	27.78	13	72.22
Westminster,	23	5	21.74	18	78.26
Whately,	13	4	30.77	9	69.23
Winchendon,	13	4	30.77	9	69.23

Total number of dairies examined,	306
Number found to be free from objectionable conditions,	94
Number to which letters were sent,	212
Total number of conditions to which attention was called,	811
Percentage of dairies which passed inspection,	30.72

The names of the owners of the dairies found to be worthy of commendation follow: —

Ashburnham.

Whitney, Lewis.

Barre.

Adams, A. F.	Bezanson, R. J.	Cole, E. D.
Bacon, David.	Boutwell, I. D.	Cummings, W. S.
Barre Town Farm.	Carpenter, A. C.	Dwinell, J. A.
Bemis, Mrs. Myra.	Clark, A. P.	Ellis, George H.

[1] *An Instance of Improvement in Dairy Sanitation.* — In the month of June, 1906, letters were sent to eighteen milk producers supplying the city of Malden, and at the same time a communication was addressed to the Board of Health of Malden, requesting their co-operation in bringing about improved sanitation. On October 15, in consequence of a complaint received from Malden that the local board of health had done nothing to bring about the desired results, which complaint was found not to be based on facts, the said authorities having taken immediate action, a second examination was made, with the following results: in twelve cases the suggestions made had been carried out, and the places were being conducted in an unobjectionable manner; in three instances no change whatever had been carried out; and in three where improvement had occurred, new objectionable conditions had arisen.

Gates, Walter.
Glazier, S. D.
Hartwell, Charles.
Hinckley, Wilfred O.
Howe, Elliott.
Johnson, Fred.
Lincoln, W. H.
Longham, William.
Marsh, William H.
Patterson, Herbert N.
Rice, James A.
Rice, J. F.
Rogers, James.
Smith, J. L.
Stetson Home.
Stevens, Samuel D.
Sullivan, John.
Swann, George.
Thrasher, Almon.
Ware, Herbert.
Williams, S. S.

Fitchburg.

Andrews, H.
Bingham, E. R.
Dorais, C.
Dyer, Estate of H. B.
Eddy, Frank G.
Fairbanks, C. L.
Farwell, A. S.
Goodspeed, George H.
Grubb, J. G.
Harrington, G. H.
Hartwell, Charles.
Hirvi, Jacob.
Knights, Frank J.
Lawrence, A. G.
Porter, L. W.
Putnam, J. E.
Raymond, Lyman.

Gardner.

Brown, C. E.
Grimes, Henry.
Haywood, Henry.
Leonard, Chester.
Nelson, Victor.
O'Dell, David.
Pierce, F. J.
Rice, Mrs. Cora.
Underwood, Dr. G. P.
Wilson, Frank W.

Hadley.

Cook, R. L.
Howe, Myron.
Ryan, Edward (Town Farm)

Malden.

Epstein, Samuel.
Hallaway, M. L.
Harriman, Jeremiah.
Lorden, Michael.
Miller, Max.
Robbins, Daniel C.
Steves, A. J.
Weiner, Max.
White, William.
Whitehead, Mrs. Julia.
Wiggins, Joseph B.
Woodman, W.

Templeton.

Bass, George.
Brown, John M.
Grey, William.
Harwood, Augustus.
Stiles, G. E.

Westminster.

Hamilton, Mrs. E. M.
Hobbs, George.
Merritt, M. D.
Ray, Hiram.
Simonds, S. D.

Whately.

Bardwell, E. W.
Moore, G. W. & J. T.
Munson, L. S.
Sanderson, Lyman.

Winchendon.

Beaman, George.
Morlock, W. E.
Sawyer, W. H.
Vaine, Joseph.

COCAINE PREPARATIONS ADVERTISED AS UNSALABLE AT RETAIL.

The following preparations containing cocaine have been advertised, in accordance with the provisions of chapter 386 of the Acts of 1906, as unsalable at retail: —

Crown Catarrh Powder.
Dr. Agnew's Catarrh Powder.
I. C. R. Instant Catarrh Relief.
Dr. Cole's Catarrh Cure.
Pretzinger's Catarrh Balsam.
Allenbury's Throat Pastilles, No. 9.
Compressed Pill Creosote Comp. (John Wyeth & Bro.)
Specific for Asthma, Hay Fever, and all Catarrhal Diseases of Respiratory Organs. (Nathan Tucker, M.D., Mt. Gilead, O.)

AN OUTBREAK OF TYPHOID FEVER IN NATICK, WELLESLEY AND NEEDHAM.

During September and October 118 persons living in Natick, Wellesley and Needham were stricken with typhoid fever. Of this number, 105, or 89 per cent., were taken sick between September 9 and October 13, a periods of five weeks. Fifty-six of these persons lived in Natick, 37 in Wellesley and 25 in Needham.

The general facts relative to the incidence and the distribution of these 118 cases of typhoid fever are set forth in the following table: —

Table No. 1.

WEEK ENDING.	SEPTEMBER.					OCTOBER.				NOVEMBER.		Total No. Cases.	Population 1900.	Cases per 1,000 Population.
	1	8	15	22	29	6	13	20	27	3	10			
Natick,	1	3	2	2	–	3	5	–	–	–	–	16	9,488	6.2
South Natick,	–	–	7	14	11	3	1	1	3	–	–	40		
Wellesley,	–	–	4	5	6	9	8	3	–	2	–	37	5,072	7.4
Needham,	–	–	2	7	4	3	9	–	–	–	–	25	4,016	6.2
Total,	1	3	15	28	21	18	23	4	3	2	–	118	18,576	6.37
Per cent. of cases in each week,	0.8	2.5	12.7	23.7	17.8	15.3	19.5	3.5	2.5	1.7	–	–	–	–
	4 cases, — 3.3 per cent.		105 cases, — 89.0 per cent.					9 cases, — 7.7 per cent.						

I. The Epidemic in Natick.

Fifty-six residents of Natick were stricken with typhoid fever between August 26 and October 27. Of this number, 16 lived in Natick proper and 40 in South Natick, a small village about one and a half miles from the center of the town.

The cases in Natick proper were distributed between August 26 and October 13. Of the 40 cases in South Natick, 32 (80 per cent.) occurred between September 10 and September 19. The epidemic was thus limited mainly to South Natick and was distinctly explosive in character. (See Fig. 1.) Nearly all of the families in which typhoid fever occurred lived in that part of South Natick which lies between Eliot Street, the Charles River and the Wellesley town line. Additional facts relative to the occurrence of the cases in South Natick are as follows: —

	No. Households.	No. Individuals.
Households in which two or more cases of typhoid fever occurred: —		
2 primary cases followed by 1 secondary,	3	9
1 primary case followed by 1 secondary,	2	4
2 primary cases,	4	8
3 primary cases,	1	3
	10	24
Households in which but one case of typhoid fever occurred,	16	16
Total,	26	40

It thus appears that the 40 cases of typhoid fever in South Natick were distributed among 26 families; that but 5 of the cases were secondary; and that, of these 5, only 2 occurred during the period September 10–29.

The 16 cases of typhoid fever in Natick proper occurred in 14 households, 3 of them being in the same family. All were primary. The distribution of the cases was widespread.

It does not appear that any of the victims of the epidemic in this locality acquired typhoid fever while living elsewhere.

Water Supply. — The water used by the stricken persons in practically every instance was derived from the public supply.

Milk. — Of the 40 victims who lived in South Natick, 32 (80 per cent.) bought milk from the same dealer, "B." This number includes 80 per cent. of the persons taken sick between September 10 and September 29. The outbreak of typhoid fever here was therefore chiefly

among the customers of this milkman. The following table shows the number of individuals in South Natick who were taken sick during each week of the epidemic, grouped according to the source of their milk supply: —

Table No. 2.

WEEK ENDING.	MILK DEALER.				Private.	Unknown.	Total.
	A.	B.	D.	L.			
September 1,	–	–	–	–	–	–	–
September 8,	–	–	–	–	–	–	–
September 15,	–	6	–	–	1	–	7
September 22,	2	11	–	1	–	–	14
September 29,	–	11	–	–	–	–	11
October 6,	1	1	1	–	–	–	3
October 13,	–	1	–	–	–	–	1
October 20,	–	1	–	–	–	–	1
October 27,	–	1	–	–	1	1	3
Total,	3	32	1	1	2	1	40

The 16 victims living in Natick proper obtained their milk from 8 different dealers. Four were supplied by "D," 3 by "F," 3 by "G" and 2 by "H." Four persons were supplied by 4 other dealers, "I," "J," "O" and "R." The 3 persons supplied by "G" were members of the same family, and were taken sick October 5, 7 and 13. It was alleged that these 3 persons on or about September 25 drank milk from another dealer, "A."

II. The Epidemic in Wellesley.

In Wellesley 37 cases of typhoid fever occurred during September and October. Twenty-eight persons (80 per cent.) were taken sick between September 17 and October 13; 15 were stricken during the period September 9–29; 5 cases occurred after October 13.

Twenty-one of the victims, including 15 employees, were persons connected with Wellesley College. All of these individuals took one or more of their meals at the college.

Two persons, and possibly a third, acquired the disease while living elsewhere than in Wellesley. Four cases of typhoid fever occurred in households where the disease was already present, and were undoubtedly secondary.

Water Supply. — All of the persons stricken in Wellesley either regularly used or had access to water from the public supply.

Milk Supply. — The source of the milk used by the 37 victims was ascertained in the case of all but 2. Thirty-one used milk from dealer "A." Ten of the persons using this milk received it at their homes as individual customers; 21 had access to it at Wellesley College, which

was supplied by dealer "A." Four victims obtained their milk from as many different milkmen, "D," "E," "N" and "Q," and, of these persons, 2 (supplied by "N" and "Q") were probably infected elsewhere than in Wellesley.

It thus appears that a large proportion of the Wellesley victims obtained their milk from the same source, dealer "A." Excluding the 2 cases in which infection took place out of town, and 2 in which the source of milk supply was not determined, 31 out of 33 (94 per cent.) of the persons stricken had access to the milk supplied by dealer "A." This dealer, besides supplying Wellesley College, distributed milk to about 30 individual customers in Wellesley.

III. The Epidemic in Needham.

In Needham 25 persons were stricken with typhoid fever between September 15 and October 13. Thirteen of these were taken sick within the nine days September 15–24, and 12 within the eleven days October 2–13. Of the latter, 4 lived in Highlandville. With the exception of these, all of the victims were residents of the main village of Needham. In no instance was it clear that the disease had been acquired out of town. One case was undoubtedly secondary.

Water Supply. — Practically all of the victims used or had access to the public supply.

Milk Supply. — Nineteen persons bought milk from dealer "C," one of the chief distributors in the village. Three, all residents of Highlandville, were supplied by dealer "E." The remaining 2 victims obtained their milk from two dealers, "K," who kept but one cow, and sold milk to a few customers only, and "P." One of the stricken persons used milk from a private supply, but alleged that occasional use had been made of milk from a store which was supplied by dealer "C."

IV. The Epidemic as a Whole.

The fact that the outbreak of typhoid fever in the three communities was practically simultaneous suggests that what might appear to be three epidemics constituted essentially one.

By reference to Table No. 1 it will be seen that 89 per cent. of the cases occurred between the week of September 15 and that of October 13, and that during this period the disease reached its maximum degree of prevalence in each of the three towns.

The accompanying chart (Fig. 1) shows the explosive nature of the outbreak, and indicates the time relation between the epidemics in the several localities. The curves in this figure are based on the number of persons taken sick in each locality, by weeks.

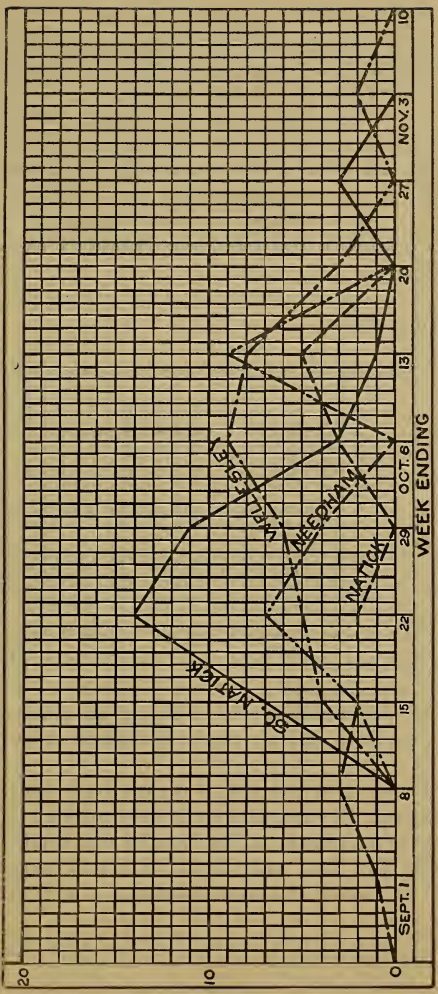

FIG. 1. — Weekly incidence of Cases in South Natick, Natick, Wellesley and Needham.

From this it appears that the outbreak was most pronounced in South Natick, and that here it reached its climax about September 20, rapidly declining thereafter. In Wellesley the epidemic was somewhat more gradual in its development, not reaching its maximum until October, and persisting well into that month. In Needham there seem to have been two outbreaks, separated by an interval of about one week. It is worthy of note that, of the 9 cases constituting this second outbreak, 3 were in a part of the town remote from that in which the epidemic originated, and 1 was secondary. In Natick proper the prevalence of typhoid fever was at no time sufficiently marked to warrant its being regarded as epidemic.

Age and Sex. — The age and the sex of the stricken persons is shown by the following table: —

Table No. 3.

Locality.	Under 1 Year.	1-5 Years.	6-10 Years.	11-15 Years.	16-20 Years.	21-30 Years.	31-40 Years.	41-50 Years.	51-60 Years.	Over 60 Years.	Not Ascertained.	Total.	Males.	Females.
Natick,	–	7	6	5	7	16	4	5	3	–	3	56	22	34
Wellesley,	–	2	3	1	3	13	4	2	–	–	9	37	12	25
Needham,	–	2	5	4	1	5	5	–	–	–	3	25	11	14
Total,	–	11	14	10	11	34	13	7	3	–	15	118	45	73

The proportion of cases to population was nearly the same in all three towns. In Natick and in Needham there were 6.2 cases per 1,000 population; in Wellesley, 7.4 cases.

Milk Supply. — The milk supply of the persons stricken in this epidemic was investigated, and the source ascertained in nearly every instance.

In the following table the several dealers from whom the victims obtained their milk are designated by letters, opposite which are indicated the number of persons in each locality who obtained milk from the source specified. This table further shows the proportion to the whole number of cases of the number among the users of milk from a given source.

Table No. 4.

Source of Milk Supply.	Natick, South Natick.	Wellesley.	Needham.	Total.	Per Cent. of Whole Number.
A,	3	31	–	34	28.8
B,[1]	32	–	–	32	27.1
C,[1]	–	–	19	19	16.1
D,[1]	5	–	–	5	4.2
E,[1]	–	1	3	4	3.4
F,	3[2]	–	–	3	2.5
G,	3	–	–	3	2.5
H,[1]	2	–	–	2	1.7
I,[1]	1	–	–	1	0.8
J,	1	–	–	1	0.8
K,	–	–	1	1	0.8
L,	1	–	–	1	0.8
M,	–	1	–	1	0.8
N,	–	1	–	1	0.8
O,	1	–	–	1	0.8
P,[1]	–	–	1	1	0.8
Q,	–	1	–	1	0.8
R,	1	–	–	1	0.8
Private,	2	–	1	3	2.5
Undetermined,	1	2	–	3	2.5
Total,	56	37	25	118	100.0

Milk supply of victims according to source and locality.

From this it appears that dealers "A," "B" and "C" together furnished the milk used by 85 victims, or 72 per cent. of the whole number, while the remaining 33 obtained their milk from 17 different dealers.

It was ascertained that both "B" and "C" regularly purchased milk at wholesale from "A," and that 5 more of the milkmen concerned in the epidemic were occasional purchasers from this source. The 7 dealers who so purchased are indicated in the preceding table. The total number of victims who obtained milk from "A," or from any of the dealers who purchased at wholesale from him, was 98, which is 83 per cent. of the whole number.

The following table presents figures showing the number of cases of typhoid fever among the patrons of "A," or of the several dealers who obtained a part of their milk supply from him, grouped according to locality, together with percentages: —

[1] Wholesale customers of "A," either regular or occasional.

[2] Members of same family; all drank milk from "A" about September 25.

Table No. 5.

PLACE.	Total No. Cases.	Source A.		Source B.		Source C.		Sources D. E. H. I. P.		Total Per Cent. from these Sources.
		No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.	
Natick,	16	–	–	–	–	–	–	7	43.7	43.7
South Natick,	40	3	6.4	32	80.0	–	–	1	2.5	88.9
Wellesley,	37	31	83.7	–	–	–	–	1	2.7	86.4
Needham,	25	–	–	–	–	19	76.0	4	16.0	92.0
Total number cases,	112	34	28.8	32	27.1	19	16.9	13	11.0	83.0
Number supplied by "A," etc.,	98									

Number of persons who obtained milk from "A" or from dealers who purchased from "A."

The accompanying chart (Fig. 2) shows in graphic form essentially the data contained in the preceding table. The double-hatched area indicates the number of victims who were supplied with milk by "A" or by the dealers who purchased from him.

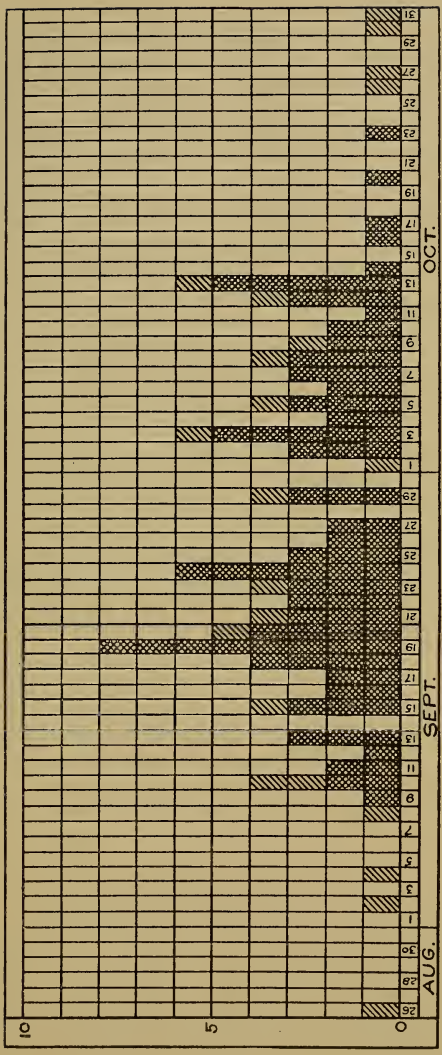

FIG. 2.

The evident importance of the dairies of "A," "B" and "C" as possible factors in the epidemic caused them to be carefully inspected.

The dairy of "A" was found to be a large and well-conducted farm, situated in South Natick. The yield of milk from this dairy on September 1 was about 60 cans a day. Of this amount, 15 cans a day were sent to Wellesley College, about 6 cans a day were distributed to individual retail customers in Wellesley, some 3 cans a day were consumed on the farm, and the remainder was in large part sold by the can to various milk dealers who distribute in South Natick, Natick, Needham, Newton and Brookline. No record was kept of these sales, the milk being paid for when taken. It was therefore impossible to determine the dates upon which these wholesale customers bought milk, or the number of cans purchased. It appears, however, that "B" and "C" were daily customers, and that "A" supplied to each from 2 to 3 cans of milk a day. The other wholesale purchasers bought from 2 to 10 cans at a time, and at irregular intervals.

The milk at the dairy of "A" is handled in a milk room adjoining one of the barns, and distant about forty feet from the dwelling house. This room is fairly well appointed, and at the time of inspection was clean. In this room the milk is strained, cooled by an aërator, and again strained into a large mixing tank, whence it is drawn into the can. Wholesale purchasers furnish their own cans, which are filled from this tank. The milk is handled by five men, — four milkers and a foreman in charge of the milk room. The milk utensils are washed by the foreman in the milk room. The water on the premises is from the public supply.

It was ascertained that at the time of inspection, September 25, all of the persons employed upon this farm were healthy. As a matter of precaution, the agglutinative test was applied to the blood of each of the five men who handled the milk, with negative results. It appeared, however, that a young woman who had served as a waitress in the employees' dining room since July 5 had been taken sick September 16. She continued at her work until September 20, when she returned to her home in Boston. A day or two later she was admitted to the Boston City Hospital, with a diagnosis of typhoid fever. The agglutinative test was positive on the day of her admission to the hospital.

Inquiry alike from this young woman herself and from the employees on the farm showed that her duties did not include any of the procedures relative to the handling of the milk or of the milk utensils. The box privy used by this person was not disinfected until after September 25.

The sale of milk to other dealers was discontinued at this dairy after

September 23, the product after that date being distributed to Wellesley College and to retail customers in Wellesley.

The dairy of "B," situated in South Natick, produced about 20 cans of milk a day. The proprietor supplemented this by from 2 to 3 cans a day purchased from the dairy of "A," the milk being distributed to about 125 customers in South Natick. The proprietor stated that the purchased milk was not mixed with that produced by the dairy. Investigation on September 25 showed no illness on the premises, and yielded no history of typhoid fever on the premises. The conditions here were found to be unsatisfactory for the proper handling of milk, but the proprietor at this time was making improvements.

One of the earliest victims in South Natick, who was taken sick September 10, lived near this dairy, but there was no evidence to show that she could in any way have infected the milk. The family of which this person was a member were supplied with milk from their own cow.

Three members of the family of "B" were subsequently stricken with typhoid fever, one on September 27, one on October 3 and a third on October 23. The milk from "B's" dairy was excluded from the Wellesley market by the local board of health about September 28.

The dairy of "C," a farm situated in Needham, produced about 18 cans of milk a day, an amount which was supplemented by from 2 to 3 cans a day purchased from the dairy of "A." It was alleged that this auxiliary supply was not mixed with the local product. The milk was distributed to about 300 customers, chiefly in Needham. The premises here were found to be in a satisfactory condition. It could not be ascertained that any illness was then present on the premises, or that any one living there within recent months had been sick.

It was learned that a part of the product of this dairy, 8 cans of morning's milk, had for many weeks been sent daily to the Convalescent Home of the Children's Hospital, at Wellesley Hills, at which during September there were from 40 to 60 children. No cases of typhoid fever occurred among these children.

V. Summary. — Conclusions.

A review of the evidence yielded by the investigation of this epidemic shows that a large number of persons living in three separate communities were stricken with typhoid fever within a relatively short period; in other words, that the outbreak was explosive, and at the same time widespread. It further shows that a very large proportion of the victims were users of milk sold by dealers who obtained a part of their supply from a common source, the dairy of "A," and that among the employees of this dairy a case of typhoid fever occurred at about the middle of September.

The evidence at hand leads to the following conclusions relative to the cause of this epidemic: —

1. The victims must have acquired infection through a medium common to the three communities in which they lived. The only such medium demonstrable is the milk derived from the dairy of "A," as distributed either directly from this source or through the hands of other milk dealers.

2. The initial infection of this milk must have occurred on or about September 1. The earliest victims of the epidemic were stricken on September 10, and the minimum period of incubation in typhoid fever is about ten days. The period within which this milk was infective was not prolonged; this fact is demonstrated by the explosive character of the outbreak.

3. The source of infection was probably the person employed as a waitress at the dairy of "A." Although no satisfactory proof exists of the manner in which infection of the milk may have occurred from this source, there is strong evidence that opportunity was not lacking. The fact that this individual showed no symptoms until September 16 does not prove that she may not have been a source of infection for a number of days prior to that date, while the additional fact that the origin of her own infection is not demonstrable subtracts nothing from the importance of her case as a factor in the epidemic.

This epidemic is instructive, as showing the possible results of the accidental infection of milk with typhoid bacilli, and of the importance attaching to the protection of market milk from such accidents.

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WEEKLY RETURNS OF DEATHS FROM CITIES AND TOWNS OF MORE THAN 10,000 POPULATION.

WEEK ENDING NOV. 3, 1906.

CITIES AND TOWNS.	Population,[1] Estimated for 1906.	Reported Deaths in Each.	Deaths under Five Years.	DEATHS FROM—					
				Principal Infectious Diseases.	Acute Lung Diseases.	Phthisis.	Diphtheria.	Typhoid Fever.	Measles.
Boston,	592,528	210	52	36	16	21	2	5	–
Worcester,	130,171	38	6	8	2	4	3	1	–
Fall River,	105,942	19	9	6	2	2	–	–	–
Cambridge,	98,583	24	4	3	2	2	1	–	–
Lowell,	94,859	26	19	5	9	4	–	1	–
Lynn,	78,871	15	1	3	1	1	2	–	–
New Bedford,	74,066	25	12	9	1	4	1	1	–
Springfield,	76,255	15	4	3	1	2	–	1	–
Lawrence,	71,653	27	6	8	3	2	2	2	–
Somerville,	70,908	15	4	6	–	2	–	1	–
Holyoke,	50,824	18	6	4	2	1	–	–	–
Brockton,	49,511	8	2	2	2	2	–	–	–
Malden,	38,978	13	1	1	1	1	–	–	–
Salem,	37,970	10	3	2	1	1	–	1	–
Chelsea,	37,968	11	2	1	2	1	–	–	–
Haverhill,	37,962	21	6	1	2	–	1	–	–
Newton,	37,512	13	3	1	–	–	–	–	–
Fitchburg,	33,327	12	4	3	2	2	1	–	–
Taunton,	30,967	5	1	1	–	1	–	–	–
Everett,	30,173	8	4	2	–	–	–	–	–
Quincy,	28,995	15	2	2	3	2	–	–	–
Waltham,	26,881	1	–	–	–	–	–	–	–
Gloucester,	26,011	–	–	–	–	–	–	–	–
Pittsfield,	25,704	4	1	1	1	1	–	–	–
Brookline,	24,207	–	–	–	–	–	–	–	–
North Adams,	22,150	6	2	1	1	1	–	–	–
Chicopee,	20,402	4	2	4	–	1	–	–	–
Northampton,	20,175	–	–	–	–	–	–	–	–
Medford,	19,988	5	1	–	1	–	–	–	–
Beverly,	15,506	3	–	1	–	–	–	–	–
Hyde Park,	14,784	5	3	2	–	2	–	–	–
Newburyport,	14,715	–	–	–	–	–	–	–	–
Leominster,	14,712	1	–	–	–	–	–	–	–
Melrose,	14,578	5	1	2	–	2	–	–	–
Woburn,	14,432	–	–	–	–	–	–	–	–
Marlborough,	14,168	3	2	1	–	1	–	–	–
Westfield,	13,887	–	–	–	–	–	–	–	–
Peabody,	13,438	–	–	–	–	–	–	–	–
Revere,	13,168	1	–	–	–	–	–	–	–
Clinton,	13,105	1	0	–	–	–	–	–	–
Attleborough,	12,995	4	0	–	–	–	–	–	–
Adams,	12,775	1	1	1	–	–	–	–	–
Gardner,	12,267	2	1	–	–	–	–	–	–
Milford,	12,256	1	–	–	–	–	–	–	–
Weymouth,	11,638	2	0	1	–	1	–	–	–
Framingham,	11,598	2	1	–	1	–	–	–	–
Watertown,	11,597	2	0	–	–	–	–	–	–
Plymouth,	11,452	–	–	–	–	–	–	–	–
Southbridge,	11,206	3	2	–	–	–	–	–	–
Wakefield,	10,476	–	–	–	–	–	–	–	–
Webster,	10,280	–	–	–	–	–	–	–	–
Recapitulation.									
Total of reporting towns,	2,132,472	604	168	121	56	64	13	13	–

[1] The populations were estimated upon the rate of growth from 1900 to 1905. Those of Lowell, Taunton, Gloucester, North Adams and Clinton were allowed to stand as in 1905, having shown no increase during the five-year period.

WEEK ENDING NOV. 10, 1906.

CITIES AND TOWNS.	Population. Estimated for 1906.	Reported Deaths in Each.	Deaths under Five Years.	DEATHS FROM —					
				Principal Infectious Diseases.	Acute Lung Diseases.	Phthisis.	Diphtheria.	Typhoid Fever.	Measles.
Boston,	602,528	219	50	39	32	26	5	1	1
Worcester,	130,171	30	8	4	1	1	2	–	–
Fall River,	105,943	30	14	8	3	3	1	–	–
Cambridge,	98,583	23	9	3	3	1	–	–	–
Lowell,	94,889	27	9	2	6	2	–	–	–
Lynn,	78,871	15	3	–	–	–	–	–	–
New Bedford,	77,006	18	6	2	–	1	–	–	–
Springfield,	76,255	17	6	1	2	–	–	–	–
Lawrence,	71,653	16	4	4	–	2	–	–	–
Somerville,	70,908	19	3	2	1	1	–	–	–
Holyoke,	50,824	13	4	4	2	1	2	–	–
Brockton,	49,511	8	–	2	–	1	–	–	–
Malden,	38,978	9	1	1	2	–	1	–	–
Salem,	37,970	10	2	–	4	–	–	–	–
Chelsea,	37,968	9	3	1	3	–	–	1	–
Haverhill,	37,962	10	1	4	–	1	3	–	–
Newton,	37,512	2	–	–	–	–	–	–	–
Fitchburg,	33,327	10	–	1	–	1	–	–	–
Taunton,	30,967	13	3	5	1	2	1	1	–
Everett,	30,173	4	–	–	–	–	–	–	–
Quincy,	28,995	12	4	3	2	2	–	–	–
Waltham,	26,881	4	1	2	–	–	2	–	–
Gloucester,	26,011	–	–	–	–	–	–	–	–
Pittsfield,	25,704	4	2	1	–	1	–	–	–
Brookline,	24,207	4	–	1	–	–	–	1	–
North Adams,	22,150	8	3	2	1	–	2	–	–
Chicopee,	20,402	4	0	1	–	1	–	–	–
Northampton,	20,175	9	1	1	1	–	–	–	–
Medford,	19,988	6	1	1	–	–	1	–	–
Beverly,	15,506	1	–	1	–	1	–	–	–
Hyde Park,	14,784	1	–	1	–	–	1	–	–
Newburyport,	14,715	–	–	–	–	–	–	–	–
Leominster,	14,712	–	–	–	–	–	–	–	–
Melrose,	14,578	1	0	–	–	–	–	–	–
Woburn,	14,432	3	–	–	–	–	–	–	–
Marlborough,	14,168	2	0	1	–	1	–	–	–
Westfield,	13,887	–	–	–	–	–	–	–	–
Peabody,	13,438	–	–	–	–	–	–	–	–
Revere,	13,168	2	1	1	–	–	–	1	–
Clinton,	13,105	–	–	–	–	–	–	–	–
Attleborough,	12,995	3	0	–	–	–	–	–	–
Adams,	12,775	4	1	–	–	–	–	–	–
Gardner,	12,267	1	–	–	–	–	–	–	–
Milford,	12,256	–	–	–	–	–	–	–	–
Weymouth,	11,638	5	0	–	2	–	–	–	–
Framingham,	11,598	4	1	–	2	–	–	–	–
Watertown,	11,597	4	0	–	–	–	–	–	–
Plymouth,	11,452	–	–	–	–	–	–	–	–
Southbridge,	11,206	2	1	–	–	–	–	–	–
Wakefield,	10,476	1	–	–	–	–	–	–	–
Webster,	10,280	–	–	–	–	–	–	–	–

Recapitulation.

Total of reporting towns,	2,161,689	587	142	99	72	49	21	5	1

WEEK ENDING NOV. 17, 1906.

CITIES AND TOWNS.	Population. Estimated for 1906.	Reported Deaths in Each.	Deaths under Five Years.	DEATHS FROM— Principal Infectious Diseases.	Acute Lung Diseases.	Phthisis.	Diphtheria.	Typhoid Fever.	Measles.
Boston,	602,528	203	53	27	31	18	2	3	–
Worcester,	130,171	30	4	6	3	4	2	–	–
Fall River,	105,943	34	15	7	5	1	–	–	–
Cambridge,	98,583	21	3	1	2	–	1	–	–
Lowell,	94,889	36	12	8	5	7	1	–	–
Lynn,	78,871	14	4	4	1	4	–	–	–
New Bedford,	77,006	33	12	10	2	6	–	1	–
Springfield,	76,255	21	3	2	–	–	2	–	–
Lawrence,	71,653	20	7	2	4	1	–	–	–
Somerville,	70,908	26	9	7	6	1	1	–	–
Holyoke,	50,824	19	16	2	2	–	1	–	–
Brockton,	49,511	8	1	2	1	1	1	–	–
Malden,	38,978	11	1	1	2	–	–	1	–
Salem,	37,970	18	8	2	3	2	–	–	–
Chelsea,	37,968	13	4	2	3	1	–	1	–
Haverhill,	37,962	13	3	1	2	1	–	–	–
Newton,	37,512	6	–	–	–	–	–	–	–
Fitchburg,	33,327	9	2	–	–	–	–	–	–
Taunton,	30,967	5	2	1	–	–	–	–	–
Everett,	30,173	16	3	1	–	–	1	–	–
Quincy,	28,995	6	3	3	1	2	1	–	–
Waltham,	26,881	10	2	3	–	1	1	1	–
Gloucester,	26,011	–	–	–	–	–	–	–	–
Pittsfield,	25,704	7	–	2	1	2	–	–	–
Brookline,	24,207	6	1	–	1	–	–	–	–
North Adams,	22,150	2	0	–	–	–	–	–	–
Chicopee,	20,402	9	4	4	1	–	–	–	–
Northampton,	20,175	12	2	1	1	–	–	–	–
Medford,	19,988	6	1	1	2	1	–	–	–
Beverly,	15,506	4	1	–	–	–	–	–	–
Hyde Park,	14,784	2	2	–	–	–	–	–	–
Newburyport,	14,715	–	–	–	–	–	–	–	–
Leominster,	14,712	5	2	–	–	–	–	–	–
Melrose,	14,578	0	–	–	–	–	–	–	–
Woburn,	14,432	4	2	–	1	–	–	–	–
Marlborough,	14,168	3	0	1	–	1	–	–	–
Westfield,	13,887	–	–	–	–	–	–	–	–
Peabody,	13,438	–	–	–	–	–	–	–	–
Revere,	13,168	3	1	–	–	–	–	–	–
Clinton,	13,105	1	1	–	–	–	–	–	–
Attleborough,	12,995	3	1	–	–	–	–	–	–
Adams,	12,775	3	1	–	–	–	–	–	–
Gardner,	12,267	–	–	–	–	–	–	–	–
Milford,	12,256	8	2	–	4	–	–	–	–
Weymouth,	11,638	3	0	–	–	–	–	–	–
Framingham,	11,598	4	–	1	2	1	–	–	–
Watertown,	11,597	2	0	–	–	–	–	–	–
Plymouth,	11,452	–	–	–	–	–	–	–	–
Southbridge,	11,206	2	–	–	–	–	–	–	–
Wakefield,	10,476	2	–	–	–	–	–	–	–
Webster,	10,280	–	–	–	–	–	–	–	–
Recapitulation.									
Total of reporting towns,	2,189,495	663	188	102	86	55	14	7	–

WEEK ENDING NOV. 24, 1906.

CITIES AND TOWNS.	Population Estimated for 1906.	Reported Deaths in Each.	Deaths under Five Years.	DEATHS FROM—					
				Principal Infectious Diseases.	Acute Lung Diseases.	Phthisis.	Diphtheria.	Typhoid Fever.	Measles.
Boston,	602,528	190	50	25	33	15	2	3	–
Worcester,	130,171	40	7	3	8	3	–	–	–
Fall River,	105,943	31	9	6	7	3	–	–	–
Cambridge,	98,583	20	7	4	3	2	–	–	–
Lowell,	94,889	39	10	5	4	4	1	–	–
Lynn,	78,871	27	6	2	1	2	–	–	–
New Bedford,	77,006	32	13	9	4	5	1	–	–
Springfield,	76,255	20	5	4	4	4	–	–	–
Lawrence,	71,653	20	7	6	3	3	1	–	1
Somerville,	70,908	13	3	–	2	–	–	–	–
Holyoke,	50,824	8	3	2	1	1	1	–	–
Brockton,	49,511	8	1	2	–	2	–	–	–
Malden,	38,978	10	2	–	1	–	–	–	–
Salem,	37,970	16	5	2	1	–	1	–	–
Chelsea,	37,968	16	6	1	3	1	–	–	–
Haverhill,	37,962	9	2	2	–	–	–	–	–
Newton,	37,512	11	3	1	–	1	–	–	–
Fitchburg,	33,327	–	–	–	–	–	–	–	–
Taunton,	30,967	14	4	1	3	1	–	–	–
Everett,	30,173	6	2	–	–	–	–	–	–
Quincy,	28,995	9	0	2	1	2	–	–	–
Waltham,	26,881	2	–	–	–	–	–	–	–
Gloucester,	26,011	4	–	–	1	–	–	–	–
Pittsfield,	25,704	10	3	1	1	1	–	–	–
Brookline,	24,207	12	2	2	2	2	–	–	–
North Adams,	22,150	9	3	1	–	1	–	–	–
Chicopee,	20,402	8	5	3	1	2	–	–	–
Northampton,	20,175	1	1	–	–	–	–	–	–
Medford,	19,988	8	–	–	1	–	–	–	–
Beverly,	15,506	3	1	1	–	–	1	–	–
Hyde Park,	14,784	2	1	–	–	–	–	–	–
Newburyport,	14,715	–	–	–	–	–	–	–	–
Leominster,	14,712	2	–	1	–	–	1	–	–
Melrose,	14,578	1	0	1	–	1	–	–	–
Woburn,	14,432	2	–	1	–	1	–	–	–
Marlborough,	14,168	3	0	–	–	–	–	–	–
Westfield,	13,887	–	–	–	–	–	–	–	–
Peabody,	13,438	–	–	–	–	–	–	–	–
Revere,	13,168	3	–	–	–	–	–	–	–
Clinton,	13,105	3	0	–	–	–	–	–	–
Attleborough,	12,995	8	2	1	–	1	–	–	–
Adams,	12,775	3	1	–	–	–	–	–	–
Gardner,	12,267	–	–	–	–	–	–	–	–
Milford,	12,256	1	1	–	–	–	–	–	–
Weymouth,	11,638	7	0	–	1	–	–	–	–
Framingham,	11,598	–	–	–	–	–	–	–	–
Watertown,	11,597	1	0	–	–	–	–	–	–
Plymouth,	11,452	–	–	–	–	–	–	–	–
Southbridge,	11,206	1	1	–	–	–	–	–	–
Wakefield,	10,476	3	–	–	–	–	–	–	–
Webster,	10,280	–	–	–	–	–	–	–	–

Recapitulation.

Total of reporting towns,	2,170,581	636	166	89	86	58	9	3	1

WEEKLY RETURNS OF DEATHS FROM CERTAIN INFECTIOUS DISEASES.

DEATHS FROM INFECTIOUS DISEASES NOT SPECIFICALLY MENTIONED IN ABOVE TABLES DURING THE WEEKS OF NOV. 3, 10, 17 AND 24, 1906.

DISEASE.	Place.	WEEK ENDING —			
		Nov. 3.	Nov. 10.	Nov. 17.	Nov. 24.
Cerebro-spinal meningitis,	Boston,	1	1	–	–
	Brockton,	–	1	–	–
	Cambridge,	–	–	–	1
	Lawrence,	–	–	1	–
	Newton,	1	–	–	–
Erysipelas,	Boston,	1	1	–	–
	Haverhill,	–	–	–	1
	Holyoke,	1	–	–	–
	Salem,	–	–	–	1
Scarlet fever,	Boston,	–	1	1	–
	Chicopee,	1	–	2	–
Whooping cough,	Boston,	1	–	1	1
	Cambridge,	–	1	–	1
	Chicopee,	2	–	1	1
	Everett,	2	–	–	–
	Haverhill,	–	–	–	1
	Holyoke,	1	–	–	–
	Lawrence,	–	1	–	–
	Somerville,	–	–	1	–
	Taunton,	–	1	1	–
Hydrophobia,	Beverly,	1	–	–	–

WEEKLY RETURNS OF CASES OF INFECTIOUS DISEASES.

CASES OF INFECTIOUS DISEASES REPORTED DURING THE WEEKS OF Nov. 3, 10, 17 AND 24, 1906.

[Under the provisions of section 52 of chapter 75 of the Revised Laws.]

	WEEK ENDING —			
	Nov. 3.	Nov. 10.	Nov. 17.	Nov. 24.
Diphtheria,	281	277	316	276
Measles,	4	14	17	18
Scarlet fever,	93	132	99	68
Typhoid fever,	102	70	92	50
Tuberculosis,	77	88	58	67
Cerebro-spinal meningitis,	1	2	2	1
Smallpox,	–	–	–	–
Hydrophobia,	1	–	–	–

MONTHLY REPORT ON INSPECTION OF FOOD AND DRUGS.

The following summary presents the results of the examinations of food and drugs made by the State Board of Health during the month of November, 1906: —

ARTICLES EXAMINED.	Number found to be of Good Quality.	Number adulterated or varying from the Legal Standard.	Total.	ARTICLES EXAMINED.	Number found to be of Good Quality.	Number adulterated or varying from the Legal Standard.	Total.
Milk,	195	133	328	Porter,	16	1	17
Butter,	8	1	9	Maple syrup,	4	–	4
Canned goods,	2	–	2	Bacon,	1	–	1
Cheese,	6	–	6	Canned meats,	5	2	7
Cider,	4	2	6	Hamburg steak,	5	2	7
Cocoa,	4	–	4	Head cheese,	14	–	14
Coffee,	2	–	2	Tongue cheese,	2	–	2
Confectionery,	1	–	1	Mince meat,	4	7	11
Condensed milk,	1	1	2	Sausage,	23	–	23
Cream,	8	–	8	Tripe,	3	1	4
Cream of tartar,	6	–	6	Molasses,	4	–	4
Flavoring extract, lemon,	2	2	4	Non-alcoholic drinks,	1	–	1
Flavoring extract, vanilla,	–	1	1	Pickles,	2	–	2
Flour,	2	–	2	Salad dressing,	2	3	5
Grape juice,	–	1	1	Spices,	28	–	28
Honey,	4	–	4	Table sauce,	2	–	2
Jams and jellies,	2	1	3	Vinegar,	20	1	21
Lard,	2	–	2	Drugs,	94	18	112
Ale,	28	–	28	Total,	507	177	684

The samples of drugs found to be adulterated were: aqua hamamelidis, cera flava, oleum olivæ, spiritus camphoræ, whiskey, spiritus menthæ piperitæ, tinctura iodi, and several proprietary preparations containing cocaine.

The cities and towns in which samples were collected were: Attleborough, Beverly, Brockton, Boston, Cambridge, Chelsea, Easton, Fall River, Fitchburg, Greenfield, Holyoke, Lynn, Malden, Mansfield, Medford, Melrose, Middleborough, Milford, Newburyport, North Adams, Norwood, North Attleborough, Orange, Peabody, Plymouth, Quincy, Somerville, Stoughton, Southbridge, Salem, Taunton, Waltham, Webster, West Springfield and Weymouth.

PROSECUTIONS FOR VIOLATIONS OF THE LAW RELATING TO FOOD AND DRUGS.

Twenty-five convictions were secured during the month of November, 1906, for selling adulterated food and drugs, as follows: —

No.	Name of Defendant.	Place.	Character of Article sold.
1	Geo. L. Averill,	Andover,	Milk (total solids, 11.31).
2	Edw. L. Brigham,	Attleborough,	Tripe.
3	William C. O'Connor,	Boston,	Potted ham ("Veribest").
4	Ward D. Prescott,	Boston,	Shrimp.
5	J. Willard Hayden (Henry Siegel Co.),	Boston,	Instant catarrh relief.[1]
6	Benj. W. Rodman,	Boston,	Hamburg steak.
7	Fred P. Purdy,	Boston,	Hamburg steak.
8	Morris Goldman,	Chelsea,	Milk (total solids, 11.30).
9	Jacob Appell,	Gardner,	Spirits of camphor.
10	Geo. C. Leathe,	Gardner,	Spirits of camphor.
11	Geo. C. Leathe,	Gardner,	Olive oil.
12	Hosea M. Brown,	Orange,	Milk (total solids, 9.94).
13	James Wolahan,	Danvers,	Milk (total solids, 10.84).
14	Eugene A. Benjimin,	North Adams,	Spirits of camphor.
15	Joseph H. Geddis,[2]	North Adams,	Milk (total solids, 11.26).
16	Edw. J. Lemone,	North Adams,	Spirits of camphor.
17	William H. Freeman,[2]	North Adams,	Milk (total solids, 11.22).
18	Gordon L. Parris,	North Adams,	Milk (total solids, 11.22).
19	Garry W. Russell,[2]	North Adams,	Olive oil.
20	Peter McNiff,	Salem,	Dr. Agnew's catarrh powder.[1]
21	Albert Batchelder,	Danvers,	Milk (total solids, 10.82).
22	John A. Porter,[2]	Woburn,	Milk (total solids, 10.24).
23	John A. Porter,[2]	Woburn,	Milk (total solids, 11.46).
24	Patrick J. Flynn,	Salem,	Milk.
25	Chas. L. Eldridge,	Wrentham.	Milk (total solids, 10.33).

[1] Cocaine preparations

[2] Appealed.

Fines imposed, $469.

LIST OF ADULTERATED FOOD, ETC., FOR NOVEMBER, 1906.

Number of Sample.	Character of Sample.	Brand, or Name of Manufacturer, Wholesaler or Producer.	Results of Analyses.
4297	Milk,	Albert C. Batchelder, Danvers,	10.52 per cent. solids; contained added water.
4391	Milk,	Charles L. Eldridge, Wrentham,	10.33 per cent. solids; contained added water.
6823 N	Milk,	Atwood's New Market, Stoughton,	11.65 per cent. solids; contained added water.
4583	Milk,	Thomas P. Cronan, Milford,	10.92 per cent. solids; contained added water.
4588	Milk,	James M. Fletcher, Milford,	10.76 per cent. solids; contained added water.
2514 M	Milk,	Jesse Doody, North Saugus,	11.04 per cent. solids; contained added water.
6709 N	Milk,	N. Shaw, Plymouth,	11.48 per cent. solids; contained added water.
4610	Milk,	Chas. H. Wright, Norwood,	11.74 per cent. solids; colored with annatto.
4399	Snider's Salad Dressing,	T. A. Snider Preserve Company, Cincinnati, O.,	Preserved with benzoic acid.
4401	Campbell's Salad Dressing.	Joseph Campbell Company, Camden, N. J.,	Preserved with benzoic acid.
4421	Yacht Club Salad Dressing.	Tildesley & Co., Chicago, Ill.,	Preserved with a boron preservative.
4416	Mince meat,	Brockton Public Market, Brockton,	Preserved with benzoic acid.
4418	Mince meat,	E. E. Gray Company, Boston,	Preserved with benzoic acid.
4357	Mince meat,	H. A. Johnson & Co., Boston,	Preserved with benzoic acid.
4578	Mince meat,	Alonzo A. Knight, Boston,	Preserved with benzoic acid.
4453	Canned corned beef,	Oriental Packing Company,	Preserved with a boron preservative.
4454	Canned lunch tongue,	Interocean Packing Company,	Preserved with a boron preservative.
2402 M	Porter, "Old Stout,"	A. G. Van Nostrand, Boston,	Preserved with salicylic acid.
4216	Grape juice,	Adolph Prince, New York,	Preserved with salicylic acid.
A 216	Mexican Vanola,	Oritz & Jaoquin, Mexico City,	A preparation containing coumarin.
4194	Compressed Pill, Nausea,	John Wyeth & Bro., Inc., Philadelphia, Pa.,	Contained cocaine.
4196	Compressed Pill, Throat, Mentholated.	John Wyeth & Bro., Inc., Philadelphia, Pa.,	Contained cocaine.
2312 M	Compressed Voice Tablets.	John Wyeth & Bro., Inc., Philadelphia, Pa.,	Contained cocaine.
2296 M	Creosote Comp., No. 2,	C. Kilgore, New York,	Contained cocaine.
6563 N	Olive oil,	Fourth Street Pharmacy, South Boston,	Cotton-seed oil.

INSPECTION OF DAIRIES.

During the month of November, 1906, 271 dairies were examined in the following places: —

Place.	Number examined.	Number found to present no Objectionable Features.	Per Cent	Number to which Letters were sent.	Per Cent.
Amherst,	122	24	19.67	98	80.33
Easthampton,	1	–	–	1	–
Hadley,	2	–	–	2	–
Hatfield,	8	–	–	8	–
Holyoke,	28	8	28.57	20	71.43
Northampton,	31	3	9.68	28	90.32
South Hadley,	60	10	16.67	50	83.33
Stoneham,	7	3	42.86	4	57.14
Westminster,	1	–	–	1	–
Whately,	11	2	18.18	9	81.82

Total number of dairies examined,	271
Number found to be free from objectionable conditions,	50
Number to which letters were sent,	221
Total number of conditions to which attention was called,	799
Percentage of dairies which passed inspection,	18.45

The names of the owners of the dairies found to be worthy of commendation follow: —

Amherst.

Bridgeman, H. P.	Juckett, Henry.	Owen, Henry W.
Coe, Freeman B.	Kellogg, Joseph M.	Pelot, L.
Comings, Horace C.	King, E. A.	Randall, Henry T.
Cook, Horace W.	Little, Charles E	Starkey, Martin T.
Guiel, L. D.	Loomis, William B.	Thayer, D. R.
Haskins, Sylvester H.	MaGill, Mrs. William.	Watts, William J.
Hobart, G. F.	Merkle, Emil F.	Webster, Walter E.
Hooker, Charles.	Nutting, Charles C.	Wentworth, Edwin H.

Holyoke.

Baldwin, W. C. P.	Goodyear, George L.	Petersen, Henry.
Ball, James.	Jenner, H.	Whiting, William.
Eger, H.	Lesure, Frederick.	

Northampton.

Coffee, James.	Diemand, Jacob.	Guilford, Frank L.

South Hadley.

Barber, Hattie A.	Dunklee, H. S. & Son.	Person, W. F.
Boyington, Charles.	Gagne, A.	Preston, Calvin & Son.
Brockway, Frederick.	Mellen, James C.	Smith, Arthur D.
Brockway, Horace.		

Stoneham.

Doherty, Michael. Kenney, Michael. McCarthy, John.

Whately.

Allis, Irving. McClellan, George.

ADDITIONAL SLAUGHTERHOUSE REPORTS.

In the September "Bulletin" was presented an account of the conditions of 190 small slaughterhouses in various parts of the Commonwealth, and it was stated that the establishments in the following places had not been visited: Beverly, Danvers, Essex, Lynn, Lynnfield, Peabody, Reading, Wakefield and Wenham. Since the "Bulletin" was issued, however, a number of reports, which were accidentally placed with some concerning other industries under investigation, have been found, and are given herewith.

Beverly.

191. A dilapidated shed, 30 by 15 feet, partly floored. The unfloored portion contains about a foot of wet, slimy manure; back of the shed is a hollow filled with the same material. The place has been in use for many years, but it shows no evidence of having been cleaned in any way. It is situated near the street, through which runs a water main; but what water is needed is brought in pails. The offal is said to be buried; the hoofs, heads and grease, etc., are sold to renderers.

Danvers.

192. A well-built slaughterhouse, connected with a barn, and reached by passing through the stable. The killing-room is 22 by 20 feet. The wood work is in good condition, but shows no evidence of any process of cleaning, being covered with dirt, blood, filth and grease. The floor has a slit about an inch in width, through the center, through which the blood escapes to a hog-pen below. About 25 calves are killed per month. The heads, hides, hoofs, horns, bones, fat and offal are taken away by a rendering company.

193. Shed, 17 by 25 feet, connected with a house and barn. The floor is of double thickness, and slopes to a gutter which discharges into a trough outside, which overflows onto the ground. The offal is carted away to a hog-pen in the woods. The place shows no evidence of ever

having been washed, but the floor is scraped every day after use. The walls and ceiling are so covered with spots of blood and filth that it is hardly possible to see the wood itself.

Essex.

194. *Caleb Low.* — Slaughterhouse in part of barn; area, 15 by 12 feet. The sloping floor drains to the cellar. The place is clean, and in good condition. The floor is kept well washed.

Lynn.

195. A number of dilapidated sheds, barns and out-houses, in dirty condition. Thirty or 40 hogs and a number of dogs were roaming at will on the day of visit. The slaughterhouse itself is part of one end of a barn, 25 by 30 feet. It contained dirty harnesses and tools, grain in barrels, blankets and old bags, and about a dozen cow and calf skins folded, ready for removal. The cellar underneath was filled to a depth of two or three feet with slimy material and manure. The place is exceedingly dirty in every part. A large number of animals are killed weekly.

196. Small slaughtering establishment, in which hogs are killed between October and March. When visited, the place was fairly clean, but had not been used for five months.

Lynnfield.

197. Part of an old barn; slaughtering area, 20 by 25 feet. On the day of visit a hurried job of whitewashing had been done, the whitewash having been applied over the dirt, and to the ropes, wheels and elsewhere where not needed. The place in general is dirty and dilapidated. The blood and offal are sent through a trap door to the cellar, which drains into an unused well. About 10 cows and calves per week are killed; hogs are killed in the autumn.

Peabody.

198. *James B. Eaton (West Peabody).* — Building, 22 by 22 feet, adjoining a barn close to a dwelling house. The floor pitches slightly to a slit about four feet long and an inch in width, through which the blood, and water used in cleaning, run to the cellar beneath, where sawdust is used for their absorption. The fat, heads, hoofs, etc., are sold to renderers. The offal is buried on the farm. The place shows evidence of constant care. It is whitewashed, and the floor is very clean. Sulphonaphthol solution is sprayed on the floor after each killing.

Reading.

199. From a small, dirty yard, cattle are driven to a pen and thence into a slaughterhouse, 15 by 22 feet, with a wooden floor, in which is a trap door to the cellar beneath. The place is supplied with running water, but the floor, walls and ceiling show no evidence of its use. The floor is scraped and swept occasionally, but the place as a whole is very dirty. The cellar contains about two feet of liquid, slimy manure. A refrigerator, 10 by 12 feet, in fair condition, opens from the slaughtering room. From 30 to 60 animals are killed monthly. The offal is carted away and buried. The fat, heads, hoofs, etc., are sent to a rendering establishment.

Wakefield.

200. *Dexter C. Wright.* — Shed, 20 by 25 feet, in which hogs are killed. It has a cellar filled with loam, which is used for the absorption of blood and other liquids. About 100 hogs are killed during the season. The place is clean, and seems to be well suited to the business.

Wenham.

201. Slaughtering done in one end of a barn, 22 by 30 feet. The blood and offal pass through a trap door into a wooden trough, which discharges into the cellar of another portion of the barn. A refrigerator, opening from the killing-room, is in fair condition; but the rest of the place.— the floors, benches, tables, walls and ceiling — is exceedingly dirty, and apparently never cleaned. The loose materials are scraped from the floor, but the rest remain. The cellars are in a filthy condition. About 50 cattle are killed per month. The refuse is carted away by a rendering company.

ADDITIONAL COCAINE PREPARATIONS ADVERTISED AS UNSALABLE AT RETAIL.

The following preparations may not be sold at retail, except upon prescriptions, since they contain cocaine: —

Compressed Pills, Throat, Mentholated. (John Wyeth & Bro., Inc.)
Compressed Pill, Nausea. (John Wyeth & Bro., Inc.)
Compressed Voice Tablets. (John Wyeth & Bro., Inc.)
Anti-vomiting Tablets. (Mulford.)
Tablets, Anti-vomiting, No. 2. (Mulford.)
Compressed Tablets, Creosote Comp. No. 2. (C. Kilgore, New York.)

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OF THE

STATE BOARD OF HEALTH

OF

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WEEKLY RETURNS OF DEATHS FROM CITIES AND TOWNS OF MORE THAN 10,000 POPULATION.

Week ending Dec. 1, 1906.

CITIES AND TOWNS.	Population[1] Estimated for 1906.	Reported Deaths in Each.	Deaths under Five Years.	Deaths from—					
				Principal Infectious Diseases.	Acute Lung Diseases.	Phthisis.	Diphtheria.	Typhoid Fever.	Measles.
Boston,	602,528	167	39	26	29	14	3	2	–
Worcester,	130,171	45	8	–	2	–	–	–	–
Fall River,	105,943	42	13	11	8	2	3	–	–
Cambridge,	98,583	27	7	3	3	2	–	–	–
Lowell,	96,380	40	14	8	5	4	3	–	–
Lynn,	78,871	24	7	3	4	1	–	–	–
New Bedford,	77,006	30	11	2	4	1	1	–	–
Springfield,	76,255	18	3	3	2	3	–	–	–
Lawrence,	71,653	20	10	3	6	–	1	–	–
Somerville,	70,908	24	4	2	2	1	1	–	–
Holyoke,	50,824	5	2	–	–	–	–	–	–
Brockton,	49,511	12	2	–	1	–	–	–	–
Malden,	38,978	8	2	2	1	2	–	–	–
Salem,	37,970	12	2	1	–	–	–	–	–
Chelsea,	37,968	9	–	2	2	2	–	–	–
Haverhill,	37,962	11	1	2	1	1	–	1	–
Newton,	37,512	7	1	1	–	1	–	–	–
Fitchburg,	33,327	4	2	1	–	1	–	–	–
Taunton,	30,967	7	4	–	3	–	–	–	–
Everett,	30,173	8	3	1	–	1	–	–	–
Quincy,	28,995	7	3	–	2	–	–	–	–
Waltham,	26,881	11	2	–	–	–	–	–	–
Gloucester,	26,011	–	–	–	–	–	–	–	–
Pittsfield,	25,704	10	2	1	3	1	–	–	–
Brookline,	24,207	11	–	2	–	1	1	–	–
North Adams,	22,150	8	1	1	2	–	–	1	–
Chicopee,	20,402	6	2	2	–	–	–	1	–
Northampton,	20,175	11	0	2	1	1	–	1	–
Medford,	19,988	5	–	–	–	–	–	–	–
Beverly,	15,506	2	–	–	–	–	–	–	–
Hyde Park,	14,784	8	1	–	–	–	–	–	–
Newburyport,	14,715	–	–	–	–	–	–	–	–
Leominster,	14,712	5	–	1	–	1	–	–	–
Melrose,	14,578	6	1	3	–	2	1	–	–
Woburn,	14,432	2	1	–	1	–	–	–	–
Marlborough,	14,168	1	1	–	–	–	–	–	–
Westfield,	13,887	4	–	1	–	–	1	–	–
Peabody,	13,438	–	–	–	–	–	–	–	–
Revere,	13,168	4	1	–	–	–	–	–	–
Clinton,	13,105	3	2	–	–	–	–	–	–
Attleborough,	12,995	2	0	–	–	–	–	–	–
Adams,	12,775	3	2	–	–	–	–	–	–
Gardner,	12,267	4	0	–	–	–	–	–	–
Milford,	12,256	2	–	–	–	–	–	–	–
Weymouth,	11,638	7	0	–	–	–	–	–	–
Framingham,	11,598	2	–	1	–	1	–	–	–
Watertown,	11,597	3	1	–	–	–	–	–	–
Plymouth,	11,452	–	–	–	–	–	–	–	–
Southbridge,	11,206	2	1	1	–	1	–	–	–
Wakefield,	10,476	–	–	–	–	–	–	–	–
Webster,	10,280	–	–	–	–	–	–	–	–
Recapitulation.									
Total of reporting towns,	2,206,664	649	156	86	83	44	15	6	–

[1] The populations were estimated upon the rate of growth from 1900 to 1905. Those of Lowell, Taunton, Gloucester, North Adams and Clinton were allowed to stand as in 1905, having shown no increase during the five-year period.

WEEK ENDING DEC. 8, 1906.

CITIES AND TOWNS.	Population Estimated for 1906.	Reported Deaths in Each.	Deaths under Five Years.	DEATHS FROM— Principal Infectious Diseases.	Acute Lung Diseases.	Phthisis.	Diphtheria.	Typhoid Fever.	Measles.
Boston,	602,528	254	69	39	39	26	3	1	1
Worcester,	130,171	46	9	8	8	1	3	2	–
Fall River,	105,943	36	11	9	3	3	3	–	–
Cambridge,	98,583	22	7	4	3	3	1	–	–
Lowell,	96,380	32	10	1	7	–	1	–	–
Lynn,	78,871	19	6	2	6	–	–	–	–
New Bedford,	77,006	29	13	3	5	2	–	–	–
Springfield,	76,255	22	8	1	3	–	1	–	–
Lawrence,	71,653	16	5	4	2	2	1	–	1
Somerville,	70,908	21	5	2	5	1	–	–	–
Holyoke,	50,824	12	7	2	2	1	–	–	–
Brockton,	49,511	14	1	–	–	–	–	–	–
Malden,	38,978	16	7	2	1	1	1	–	–
Salem,	37,970	16	4	–	2	–	–	–	–
Chelsea,	37,968	15	2	2	2	1	–	–	–
Haverhill,	37,962	13	2	3	2	1	–	–	–
Newton,	37,512	8	2	1	5	1	–	–	–
Fitchburg,	33,327	4	0	1	–	1	–	–	–
Taunton,	30,967	19	4	3	4	2	–	1	–
Everett,	30,173	9	2	2	–	1	1	–	–
Quincy,	28,995	13	4	1	3	1	–	–	–
Waltham,	26,881	9	3	–	–	–	–	–	–
Gloucester,	26,011	–	–	–	–	–	–	–	–
Pittsfield,	25,704	–	–	–	–	–	–	–	–
Brookline,	24,207	3	–	–	–	–	–	–	–
North Adams,	22,150	5	1	2	1	1	–	1	–
Chicopee,	20,402	6	2	–	2	–	–	–	–
Northampton,	20,175	7	1	2	1	1	–	–	–
Medford,	19,988	1	–	–	–	–	–	–	–
Beverly,	15,506	5	–	–	–	–	–	–	–
Hyde Park,	14,784	4	1	1	–	1	–	–	–
Newburyport,	14,715	–	–	–	–	–	–	–	–
Leominster,	14,712	9	4	3	–	1	2	–	–
Melrose,	14,578	1	1	–	1	–	–	–	–
Woburn,	14,432	5	1	3	–	2	–	–	–
Marlborough,	14,168	3	0	–	–	–	–	–	–
Westfield,	13,887	4	–	–	–	–	–	–	–
Peabody,	13,438	–	–	–	–	–	–	–	–
Revere,	13,168	3	1	–	–	–	–	–	–
Clinton,	13,105	5	1	1	–	1	–	–	–
Attleborough,	12,995	2	0	–	–	–	–	–	–
Adams,	12,775	3	–	–	–	–	–	–	–
Gardner,	12,267	–	–	–	–	–	–	–	–
Milford,	12,256	2	1	–	1	–	–	–	–
Weymouth,	11,638	2	1	–	–	–	–	–	–
Framingham,	11,598	2	1	1	–	1	–	–	–
Watertown,	11,597	5	2	–	2	–	–	–	–
Plymouth,	11,452	0	–	–	–	–	–	–	–
Southbridge,	11,206	5	1	–	–	–	–	–	–
Wakefield,	10,476	–	–	–	–	–	–	–	–
Webster,	10,280	–	–	–	–	–	–	–	–
Recapitulation.									
Total of reporting towns,	2,180,145	727	200	103	110	56	17	5	2

WEEK ENDING DEC. 15, 1906.

CITIES AND TOWNS.	Population. Estimated for 1906.	Reported Deaths in Each.	Deaths under Five Years.	DEATHS FROM— Principal Infectious Diseases.	Acute Lung Diseases.	Phthisis.	Diphtheria.	Typhoid Fever.	Measles.
Boston,	602,528	231	43	28	34	20	1	2	–
Worcester,	130,171	41	16	8	12	–	5	1	–
Fall River,	105,943	35	14	7	15	3	1	–	–
Cambridge,	98,583	35	6	6	10	4	–	1	–
Lowell,	96,380	28	15	3	6	–	–	–	2
Lynn,	78,871	27	5	2	3	1	–	1	–
New Bedford,	77,006	18	7	4	2	1	–	–	–
Springfield,	76,255	25	5	3	5	2	1	–	–
Lawrence,	71,653	17	7	2	5	2	–	–	–
Somerville,	70,908	15	4	3	3	3	–	–	–
Holyoke,	50,824	10	7	1	2	–	1	–	–
Brockton,	49,511	12	–	1	2	–	–	–	–
Malden,	38,978	8	2	–	2	–	–	–	–
Salem,	37,970	14	4	–	2	–	–	–	–
Chelsea,	37,968	12	3	4	1	2	1	–	–
Haverhill,	37,962	10	3	3	–	–	1	1	–
Newton,	37,512	5	1	–	2	–	–	–	–
Fitchburg,	33,327	11	4	2	1	1	1	–	–
Taunton,	30,967	15	3	1	2	–	–	1	–
Everett,	30,173	10	2	2	–	–	2	–	–
Quincy,	28,995	4	1	1	2	1	–	–	–
Waltham,	26,881	4	–	1	–	–	1	–	–
Gloucester,	26,011	3	1	–	–	–	–	–	–
Pittsfield,	25,704	9	1	5	–	3	2	–	–
Brookline,	24,207	7	4	2	–	–	2	–	–
North Adams,	22,150	4	1	–	2	–	–	–	–
Chicopee,	20,402	2	1	1	–	–	–	–	–
Northampton,	20,175	7	1	1	1	1	–	–	–
Medford,	19,988	9	3	–	3	–	–	–	–
Beverly,	15,506	1	–	–	–	–	–	–	–
Hyde Park,	14,784	6	2	1	–	–	1	–	–
Newburyport,	14,715	–	–	–	–	–	–	–	–
Leominster,	14,712	–	–	–	–	–	–	–	–
Melrose,	14,578	3	1	1	–	1	–	–	–
Woburn,	14,432	4	1	1	1	1	–	–	–
Marlborough,	14,168	3	0	1	–	1	–	–	–
Westfield,	13,887	5	–	–	1	–	–	–	–
Peabody,	13,438	–	–	–	–	–	–	–	–
Revere,	13,168	4	1	–	1	–	–	–	–
Clinton,	13,105	3	0	–	–	–	–	–	–
Attleborough,	12,995	6	1	–	1	–	–	–	–
Adams,	12,775	3	–	1	–	–	–	1	–
Gardner,	12,267	–	–	–	–	–	–	–	–
Milford,	12,256	6	–	1	1	–	–	1	–
Weymouth,	11,638	4	1	–	–	–	–	–	–
Framingham,	11,598	5	–	–	1	–	–	–	–
Watertown,	11,597	1	0	–	–	–	–	–	–
Plymouth,	11,452	5	1	–	1	–	–	–	–
Southbridge,	11,206	4	2	–	–	–	–	–	–
Wakefield,	10,476	–	–	–	–	–	–	–	–
Webster,	10,280	–	–	–	–	–	–	–	–

Recapitulation.

Total of reporting towns,	2,217,148	691	174	97	124	47	20	9	2

WEEK ENDING DEC. 22, 1906.

CITIES AND TOWNS.	Population. Estimated for 1906.	Reported Deaths in Each.	Deaths under Five Years.	DEATHS FROM— Principal Infectious Diseases.	Acute Lung Diseases.	Phthisis.	Diphtheria.	Typhoid Fever.	Measles.
Boston,	602,528	216	52	42	44	23	5	2	–
Worcester,	130,171	45	10	7	7	3	1	–	–
Fall River,	105,943	51	23	9	13	5	–	–	–
Cambridge,	98,583	25	7	9	4	6	1	1	–
Lowell,	96,380	34	12	2	8	–	–	–	1
Lynn,	78,371	23	5	4	4	1	1	1	–
New Bedford,	77,006	20	5	5	2	5	–	–	–
Springfield,	76,255	19	4	–	2	–	–	–	–
Lawrence,	71,653	27	10	7	2	3	1	–	1
Somerville,	70,908	24	4	4	3	4	–	–	–
Holyoke,	50,824	22	6	5	6	4	–	–	–
Brockton,	49,511	14	–	3	3	2	–	–	–
Malden,	38,978	8	3	–	1	–	–	–	–
Salem,	37,970	16	3	1	6	1	–	–	–
Chelsea,	37,968	11	3	1	4	–	–	1	–
Haverhill,	37,962	16	3	4	2	1	1	2	–
Newton,	37,512	10	1	2	2	–	2	–	–
Fitchburg,	33,327	13	5	2	3	2	–	–	–
Taunton,	30,967	15	2	4	4	4	–	–	–
Everett,	30,173	4	2	2	–	–	–	–	–
Quincy,	28,995	15	6	–	6	–	–	–	–
Waltham,	26,881	4	–	–	1	–	–	–	–
Gloucester,	26,011	6	2	–	–	–	–	–	–
Pittsfield,	25,704	11	–	1	1	–	1	–	–
Brookline,	24,207	4	3	2	1	–	–	–	–
North Adams,	22,150	3	2	1	2	1	–	–	–
Chicopee,	20,402	8	6	1	3	–	–	–	–
Northampton,	20,175	6	1	2	–	1	–	–	–
Medford,	19,988	8	1	1	6	–	–	–	–
Beverly,	15,506	7	–	–	1	–	–	–	–
Hyde Park,	14,784	2	1	–	–	–	–	–	–
Newburyport,	14,715	–	–	–	–	–	–	–	–
Leominster,	14,712	3	–	–	–	–	–	–	–
Melrose,	14,578	5	0	2	–	–	1	–	–
Woburn,	14,432	4	1	1	–	–	–	–	–
Marlborough,	14,168	4	2	–	–	–	–	–	–
Westfield,	13,887	4	–	–	–	–	–	–	–
Peabody,	13,438	–	–	–	–	–	–	–	–
Revere,	13,168	3	–	–	–	–	–	–	–
Clinton,	13,105	0	–	–	–	–	–	–	–
Attleborough,	12,995	6	1	–	–	–	–	–	–
Adams,	12,775	3	1	1	–	–	1	–	–
Gardner,	12,267	–	–	–	–	–	–	–	–
Milford,	12,256	3	1	1	–	–	–	–	–
Weymouth,	11,638	3	–	–	1	–	–	–	–
Framingham,	11,598	5	1	2	1	1	–	–	–
Watertown,	11,597	3	1	1	1	1	–	–	–
Plymouth,	11,452	1	–	–	–	–	–	–	–
Southbridge,	11,206	1	–	–	–	–	–	–	–
Wakefield,	10,476	–	–	–	–	–	–	–	–
Webster,	10,280	–	–	–	–	–	–	–	–

Recapitulation.

Total of reporting towns,	2,231,860	735	190	129	144	68	15	7	2

WEEK ENDING DEC. 29, 1906.

CITIES AND TOWNS.	Population. Estimated for 1906.	Reported Deaths in Each.	Deaths under Five Years.	DEATHS FROM— Principal Infectious Diseases.	Acute Lung Diseases.	Phthisis.	Diphtheria.	Typhoid Fever.	Measles.
Boston,	602,528	219	46	34	45	22	5	–	–
Worcester,	130,171	38	6	7	5	4	1	2	–
Fall River,	105,943	39	15	12	9	4	1	–	–
Cambridge,	98,583	33	7	–	8	–	–	–	–
Lowell,	96,380	40	8	5	8	3	–	–	1
Lynn,	78,871	26	3	2	2	1	–	–	–
New Bedford,	77,006	31	8	3	3	2	–	–	–
Springfield,	76,255	23	4	2	4	–	1	–	–
Lawrence,	71,653	18	9	1	3	–	1	–	–
Somerville,	70,908	14	0	1	5	1	–	–	–
Holyoke,	50,824	25	7	4	10	4	–	–	–
Brockton,	49,511	13	1	2	–	2	–	–	–
Malden,	38,978	10	1	–	2	–	–	–	–
Salem,	37,970	18	3	1	–	1	–	–	–
Chelsea,	37,968	18	2	1	4	1	–	–	–
Haverhill,	37,962	11	1	1	2	1	–	–	–
Newton,	37,512	16	4	1	2	–	1	–	–
Fitchburg,	33,327	11	2	1	2	–	1	–	–
Taunton,	30,967	12	3	1	2	–	–	–	–
Everett,	30,173	8	1	1	–	–	–	–	–
Quincy,	28,995	10	1	3	3	2	–	–	–
Waltham,	26,881	7	–	–	1	–	–	–	–
Gloucester,	26,011	2	–	1	1	1	–	–	–
Pittsfield,	25,704	14	4	–	2	–	–	–	–
Brookline,	24,207	15	5	–	1	–	–	–	–
North Adams,	22,150	6	2	1	1	–	–	1	–
Chicopee,	20,402	8	1	–	2	–	–	–	–
Northampton,	20,175	6	1	–	–	–	–	–	–
Medford,	19,988	5	1	–	1	–	–	–	–
Beverly,	15,506	2	1	–	–	–	–	–	–
Hyde Park,	14,784	2	–	1	–	–	–	–	–
Newburyport,	14,715	–	–	–	–	–	–	–	–
Leominster,	14,712	–	–	–	–	–	–	–	–
Melrose,	14,578	–	–	–	–	–	–	–	–
Woburn,	14,432	8	2	4	1	3	–	–	–
Marlborough,	14,168	4	0	1	–	1	–	–	–
Westfield,	13,887	7	–	1	–	–	–	–	–
Peabody,	13,438	–	–	–	–	–	–	–	–
Revere,	13,168	4	2	1	–	–	–	–	–
Clinton,	13,105	1	1	–	–	–	–	–	–
Attleborough,	12,995	3	1	1	–	–	–	–	–
Adams,	12,775	1	–	–	–	–	–	–	–
Gardner,	12,267	–	–	–	–	–	–	–	–
Milford,	12,256	1	1	1	–	–	–	–	–
Weymouth,	11,638	2	0	–	–	–	–	–	–
Framingham,	11,598	3	1	–	–	–	–	–	–
Watertown,	11,597	1	1	–	1	–	–	–	–
Plymouth,	11,452	–	–	–	–	–	–	–	–
Southbridge,	11,206	–	–	–	–	–	–	–	–
Wakefield,	10,476	–	–	–	–	–	–	–	–
Webster,	10,280	–	–	–	–	–	–	–	–
Recapitulation.									
Total of reporting towns,	2,179,912	735	156	95	130	53	11	3	1

WEEKLY RETURNS OF DEATHS FROM CERTAIN INFECTIOUS DISEASES.

DEATHS FROM INFECTIOUS DISEASES NOT SPECIFICALLY MENTIONED IN ABOVE TABLES DURING THE WEEKS OF DEC. 1, 8, 15, 22 AND 29, 1906.

DISEASE.	Place.	WEEK ENDING — Dec. 1.	Dec. 8.	Dec. 15.	Dec. 22.	Dec. 29.
Cerebro-spinal meningitis,	Boston,	–	4	1	1	3
	Brockton,	–	–	1	1	–
	Fall River,	–	1	–	–	1
	Lawrence,	1	–	–	–	–
	Lowell,	–	–	–	–	1
	Lynn,	2	1	–	–	1
	Melrose,	–	–	–	1	–
	Milford,	–	–	–	–	1
	Worcester,	–	1	–	1	–
Erysipelas,	Boston,	2	2	–	3	–
	Northampton,	–	–	–	1	–
	Worcester,	–	–	1	–	–
Scarlet fever,	Attleborough,	–	–	–	–	1
	Boston,	–	–	–	–	1
	Chicopee,	1	–	1	–	–
	Haverhill,	–	1	–	–	–
	Hyde Park,	–	–	–	–	1
	Lawrence,	1	–	–	–	–
	Northampton,	–	1	–	–	–
	Westfield,	–	–	–	–	1
Whooping cough,	Boston,	1	1	1	4	–
	Brookline,	–	–	–	1	–
	Cambridge,	1	–	1	–	–
	Chicopee,	–	–	–	1	–
	Everett,	–	–	–	2	1
	Framingham,	–	–	–	1	–
	Haverhill,	–	–	1	–	–
	Lawrence,	–	–	–	1	–
	Lowell,	–	–	1	–	–
	Lynn,	–	1	–	1	–
	Medford,	–	–	–	1	–
	New Bedford,	–	1	–	–	–
	Quincy,	–	–	–	–	1
	Revere,	–	–	–	–	1
	Salem,	1	–	–	–	–
	Springfield,	–	–	–	–	1
	Woburn,	–	1	–	1	1
	Worcester,	–	–	1	–	–
Hydrophobia,	Haverhill,	–	1	–	–	–
Malaria,	Chelsea,	–	1	–	–	–

WEEKLY RETURNS OF CASES OF INFECTIOUS DISEASES.

CASES OF INFECTIOUS DISEASES REPORTED DURING THE WEEKS OF DEC. 1, 8, 15, 22 AND 29, 1906.

[Under the provisions of section 52 of chapter 75 of the Revised Laws.]

	WEEK ENDING—				
	Dec. 1.	Dec. 8.	Dec. 15.	Dec. 22.	Dec. 29.
Diphtheria,	261	256	250	198	224
Measles,	29	83	31	50	30
Scarlet fever,	123	118	131	124	144
Typhoid fever,	45	34	41	28	62
Tuberculosis,	66	93	62	60	32
Cerebro-spinal meningitis,	3	5	4	3	4

MONTHLY REPORT ON INSPECTION OF FOOD AND DRUGS.

The following summary presents the results of the examinations of food and drugs made by the State Board of Health during the month of December, 1906: —

ARTICLES EXAMINED.	Number found to be of Good Quality.	Number adulterated or varying from the Legal Standard.	Total.	ARTICLES EXAMINED.	Number found to be of Good Quality.	Number adulterated or varying from the Legal Standard.	Total.
Milk,	80	87	167	Maple syrup,	–	2	2
Apples,	1	–	1	Canned meats,	8	4	12
Butter,	8	–	8	Canned plum pudding,	2	–	2
Cheese,	4	–	4	Tomato bouillon,	–	1	1
Cider,	2	9	11	Hamburg steak,	4	1	5
Cocoa,	3	1	4	Mince meat,	8	7	15
Coffee,	5	–	5	Pigs' feet,	1	–	1
Condensed milk,	1	–	1	Sausages,	7	–	7
Cream,	2	–	2	Tripe,	1	–	1
Cream of tartar,	2	–	2	Olives,	4	–	4
Extract almond,	2	–	2	Peanut butter,	3	–	3
Extract cinnamon,	1	–	1	Pickles,	3	1	4
Extract lemon,	–	3	3	Salad dressing,	2	1	3
Extract strawberry,	–	1	1	Spices,	19	–	19
Extract vanilla,	3	3	6	Sugar,	1	1	2
Grape juice,	1	–	1	Table sauce,	3	1	4
Jams, jellies and preserves,	10	2	12	Vinegar,	3	2	5
Lime juice,	–	1	1	Wine,	2	–	2
Ale,	9	–	9	Drugs,	53	10	63
Porter,	7	–	7	Total,	265	139	404
Maple sugar,	–	1	1				

The samples of drugs found to be adulterated were: spiritus camphoræ, tinctura iodi, and several proprietary preparations containing cocaine.

The cities and towns in which samples were collected were: Arlington, Attleborough, Boston, Brockton, Canton, Cambridge, Chelsea, Concord, Dedham, Fitchburg, Gardner, Greenfield, Holyoke, Hyde Park, Middleborough, Natick, Newton, North Attleborough, Quincy, Somerville, Stoughton, Salem, Waltham and Wayland.

PROSECUTIONS FOR VIOLATIONS OF THE LAW RELATING TO FOOD AND DRUGS.

Ten convictions were secured during the month of December, 1906, for selling adulterated food and drugs, as follows: —

No.	Name of Defendant.	Place.	Character of Article sold.
1	Melvin E. Fisher,	Brockton,	Strawberry jam.
2	Jeremiah Doody,	Melrose,	Milk (total solids, 11.04).
3	John J. O'Hara & Co.,	Middleborough,	Butter (renovated).
4	Chas. H. Wright,	Norwood,	Milk (colored). Appealed.
5	A. A. Francis,	Provincetown,	Milk (total solids, 11.36).
6	C. A. Cook,	Provincetown,	Milk (total solids, 10.70).
7	John G. McGregor,	Quincy,	Milk (total solids, 9.86).
8	Newell S. Atwood,	Stoughton,	Milk (total solids, 11.65).
9	John Welch,	Stoughton,	Milk (total solids, 11.64).
10	John J. Kennedy,	Stoughton,	Maple sugar.

Fines imposed, $211.

LIST OF ADULTERATED FOODS, ETC., FOR DECEMBER, 1906.

Number of Sample.	Character of Sample.	Brand, or Name of Manufacturer, Wholesaler or Producer.	Results of Analyses.
4650	Milk,	Charles E. Brown, Gardner,	Total solids, 11.14 per cent.; contained added water.
2674 M	Milk,	Nelson C. Clarmont, Dracut,	Total solids, 11.05 per cent.; contained added water.
2742 M	Milk,	John Nabed, Methuen,	Total solids, 9.60 per cent.; contained added water.
2744 M	Milk,	John Nabed, Methuen,	Total solids, 10.00 per cent.; contained added water.
4435	Tomato bouillon,	Armour & Co., Chicago,	Preserved with salicylic acid.
4776	Cocoa, Phillips' digestible.	Chas. H. Phillips Chemical Company, N. Y.,	Contained cane sugar.
4642	Maple syrup,	Golden Tree Syrup, N. E. Maple Syrup Company, Boston,	70 per cent. refined sugar syrup, 30 per cent. maple syrup.
4615	Lawson Pink deviled ham.	Roger I. Sherman Company, Boston,	Contained a boron preservative.
4617	Van Camp's potted ham,	Van Camp Packing Company, Indianapolis, Ind.,	Contained a boron preservative.
4621	Veribest deviled ham,	Armour & Co., Chicago, Ill.,	Contained a boron preservative and corn meal.
4622	Veribest deviled ox tongue.	Armour & Co., Chicago, Ill.,	Contained a boron preservative and corn meal.
4623	Veribest Vienna sausage,	Armour & Co., Chicago, Ill.,	Contained a boron preservative and corn meal.
4442	Mince meat,	The H. & H. Mince Meat Packing Company,	Preserved with benzoic acid.
4636	Mince meat,	Logan & Johnson Company, Boston,	Preserved with benzoic acid.
4631	Mince meat,	Geo. G. Fox Company, Boston,	Preserved with benzoic acid.
2792 M	Head cheese,	Harry Peck's Wild Boars Head, London, Eng.,	Contained a boron preservative.
6995 M	Columbia Sweet Piccalette.	Columbia Conserve Company, Indianapolis, Ind.,	Preserved with benzoic acid.
4694	Bordeaux Tomato Catsup.	Standard Packing Company, Indianapolis, Ind.,	Preserved with benzoic acid.
4725	Standard Catarrh Powder.	Standard Catarrh Powder Company, Boston,	Contained cocaine.
2782 M	Spirits of camphor,	Italo-Greco-American Drug Company, Boston,	25 per cent. of required strength.

INSPECTION OF DAIRIES.

During the month of December, 1906, 89 dairies were examined in the following places: —

Place.	Number examined.	Number found to present no Objectionable Features.	Per Cent.	Number to which Letters were sent.	Per Cent.
Chicopee,	8	2	25.00	6	75.00
Granby,	74	9	12.16	65	87.84
Ludlow,	6	1	16.67	5	83.33
Norfolk,	1	1	–	–	–

Total number of dairies examined,	89
Number found to be free from objectionable conditions,	13
Number to which letters were sent,	76
Total number of conditions to which attention was called,	245
Percentage of dairies which passed inspection,	14.61

The names of the owners of the dairies found to be worthy of commendation follow: —

Chicopee.

Baldwin, J. H. Langevin, Charles.

Granby.

Harris, George.
Nash, C. E.
Newell, A. A.
Newhouse, Charles.
Prentiss, R. P.
Prentiss, R. T.
Smith, Byron.
Taylor, Horace S.
Tucker, Oscar.

Ludlow.

Kane Brothers.

Norfolk.

Mrs. R. A. Ware.

ACETANILID PREPARATIONS.

Since the publication in the September "Bulletin" of the list of acetanilid preparations sold locally, the following have been examined in the laboratory and found to belong to the same class: —

Laxative Bromo Quinine. (Paris Medicine Company.)
Hammond's Instant Headache Cure. (Hanson & Co., Taunton.)
Az-Ma-Syde. (Asthma Remedy and Manufacturing Company, Boston.)

COCAINE PREPARATIONS.

The following preparations containing cocaine have been advertised as unsalable at retail, except upon prescription: —

Coca Wine. (Ropes Drug Company, Salem.)
Coca Wine. (W. B. Markell's Drug Stores.)
Coca Wine. (Lewis, The Manufacturing Chemist, Boston.)
Peruvian Wine of Coca. (Keystone Chemical Company, Philadelphia.)
Mattison's Coca Wine. (E. F. Mattison, Providence, R. I.)
Wine of Coca. (Davies, Rose & Co., Boston.)
Metcalf's Coca Wine. (Theodore Metcalf Company, Boston.)
Dr. Earl's Coca Wine. (The New York and Boston Drug Company, New York.)
Epstein's Wine of Coca. (Epstein's Cut Price Drug Store, Boston.)

The following have been advertised as unsalable at retail: —

Standard Catarrh Powder. (Standard Catarrh Powder Company, Boston.)
Throat Tablets. (Parke Davis & Co., New York.)
Reeves' Cocoa and Tolu Cough Drops. (Reeves Drug and Chemical Company, Cambridge.)

INFANTILE MORTALITY AND ITS PRINCIPAL CAUSE, — DIRTY MILK.[1]

By the Secretary of the Board.

I. Infantile Mortality Rates.

Although it is generally well known that the mortality among infants and young children is very high, it is not commonly recognized that much of it is due to causes which are avoidable, and to one in particular which can be effectively controlled by individual and concerted effort. In this country the annual waste of infant life fails to attract the attention to which it is entitled, largely because of indifference and ignorance on the part of the public and of public authorities to the importance of registration of vital statistics, by which alone can be measured the influence exerted by the various conditions affecting the public health. With no knowledge of the numbers of births and deaths, and of the ages at death, there obviously can be no knowledge of the rate of infantile mortality; and consequently, where this is high, but unrevealed, the public mind is not disturbed. Even where vital statistics are registered, and the rates of infantile mortality are therefore known, it is far from being well understood how many lost lives might easily have been saved. In some places, however, in this country and abroad, where this waste and its cause have been properly emphasized and brought home to thinking people, much has been done for its prevention, and thousands upon thousands of lives have undoubtedly been saved thereby.

The registration States of the United States are few; excepting Michigan, Indiana and the following, which recently have been added, — California, Colorado, and South Dakota, — they lie east of Ohio and north of Virginia, — a small corner which includes New England, New York, New Jersey, Pennsylvania, Maryland and the District of Columbia. According to the census of 1900, the infantile mortality per thousand births in what then made up the registration area was as follows: —

Table I.

District of Columbia,	274.5	New York,	159.8
Rhode Island,	197.9	Connecticut,	156.8
Massachusetts,	177.8	Maine,	144.1
New Hampshire,	172.0	Vermont,	122.1
New Jersey,	167.4	Michigan,	121.3

[1] Reprinted from The American Journal of the Medical Sciences, December, 1906.

One is struck with the difference between the highest and the lowest of these figures, — the former is more than twice as great as the latter; and one can but wonder what figures from every State would show, and how wide would be the variation between the highest and the lowest.

As infantile mortality figures run in foreign countries, these rates, high as they are, are not extraordinary. The highest about equals that of Russia, and is not much greater than that of Austria; Rhode Island makes a better showing than Germany and Italy, and almost as good a one as Holland and Spain; New Jersey's rate is practically the same as that of France, and better than that of Switzerland; Maine stands with England and Wales, and better than Belgium and Denmark; Michigan, the lowest in the list, stands with Scotland. Of European countries, but three,[1] Ireland, Norway and Sweden, have a lower rate than Michigan.

Outside the registration area, there are many cities and towns which collect their own vital statistics, and from their returns one can form some idea of what would be revealed were all of the States to adopt registration. The report of the census of 1900 includes returns from no fewer than 106 cities and towns with infantile death-rates in excess of 175. In 9 cases, the rate exceeded 300; in 10, it was between 250 and 300; in 38, it was between 200 and 250; and in 49, it was between 175 and 200. These returns are shown in the following table: —

TABLE II.

Charleston, S. C.,	419.5	Saratoga Springs, N. Y.,	244.9
Savannah, Ga.,	387.5	Steelton, Pa.,	244.6
Mobile, Ala.,	344.5	Manchester, N. H.,	238.4
Key West, Fla.,	311.8	Owasso, Mich.,	237.3
Biddeford, Me.,	311.6	Baltimore, Md.,	235.1
Atlanta, Ga.,	306.0	Woonsocket, R. I.,	233.8
Fall River, Mass.,	304.7	Annapolis, Md.,	233.5
Lynchburg, Va.,	301.7	Wilmington, N. C.,	232.2
Richmond, Va.,	300.7	Lansingburg, N. Y.,	230.8
Laconia, N. H.,	294.6	Troy, N. Y.,	229.5
Shreveport, La.,	293.5	New Orleans, La.,	229.2
Jacksonville, Fla.,	287.6	Nashville, Tenn.,	228.9
Norfolk, Va.,	284.6	Passaic, N. J.,	227.9
Lowell, Mass.,	275.5	Leadville, Col.,	226.6
Washington, D. C.,	274.5	New Bedford, Mass.,	222.9
Petersburg, Va.,	265.1	Augusta, Me.,	219.4
Nashua, N. H.,	261.2	Watertown, N. Y.,	219.4
Natchez, Miss.,	256.3	Atlantic City, N. J.,	215.4
Alexandria, Va.,	250.0	Raleigh, N. C.,	215.4
Burlington, Vt.,	248.0	Providence, R. I.,	214.9
Salem, Mass.,	247.7	Altoona, Pa.,	214.8
Memphis, Tenn.,	247.1	Phœnixville, Pa.,	206.7
Lawrence, Mass.,	246.5	Pottstown, Pa.,	204.1
Carlisle, Pa.,	245.4	San Antonio, Tex.,	203.9

[1] Ireland, average of twenty years, 1874 to 1893, 96.6; Norway, 1902, 75.08; Sweden, 1902, 107.

Holyoke, Mass.,	203.4	Cambridge, Mass.,	186.5
Poughkeepsie, N. Y.,	202.6	Norristown, Pa.,	186.4
Evansville, Ind.,	202.4	Auburn, N. Y.,	186.2
Detroit, Mich.,	201.2	Dover, N. H.,	186.0
Philadelphia, Pa.,	201.9	Elizabeth, N. J.,	185.6
Plymouth, Pa.,	201.4	Cleveland, O.,	185.5
Wilmington, Del.,	200.9	San Diego, Cal.,	185.5
Richmond Borough, N. Y.,	200.4	New Britain, Conn.,	184.9
Hudson, N. Y.,	200.0	Easton, Pa.,	184.4
Albany, N. Y.,	199.6	Leavenworth, Kan.,	184.4
Johnstown, Pa.,	199.2	Mt. Carmel, Pa.,	183.4
Reading, Pa.,	198.9	Covington, Ky.,	182.8
Brooklyn, N. Y.,	197.2	Newark, N. J.,	182.0
Vincennes, Ind.,	197.0	Central Falls, R. I.,	181.5
Binghamton, N. Y.,	196.9	Pittsburg, Pa.,	180.5
Sault Ste. Marie, Mich.,	196.9	Phillipsburg, Pa.,	180.0
Jersey City, N. J.,	196.4	Pawtucket, R. I.,	179.5
Portland, Me.,	195.9	Kingston, N. Y.,	178.8
Boston, Mass.,	194.1	Lawrence, Kan.,	178.8
Traverse City, Mich.,	192.8	South Bethlehem, Pa.,	178.7
Allentown, Pa.,	192.5	Pueblo, Col.,	178.4
Plymouth, Mass.,	192.1	Hartford, Conn.,	178.2
Borough of Manhattan, N.Y.,	190.9	Allegheny, Pa.,	178.0
Waterbury, Conn.,	190.7	Lima, O.,	177.8
Paterson, N. J.,	190.5	Sacramento, Cal.,	177.7
Milwaukee, Wis.,	190.2	Oskaloosa, Ia.,	177.6
Newport, Ky.,	189.8	Columbus, Ind.,	177.2
New York, N. Y.,	189.4	McKeesport, Pa.,	177.0
Kansas City, Mo.,	186.8	Los Angeles, Cal.,	175.1

II. Leading Causes.

It is unfortunate that, while these figures reveal a most lamentable waste of infant life, no details are given from which one can determine its causes, and we are compelled, therefore, to have recourse to the statistics of other countries for an explanation.

In France the average infantile death-rate for the twenty years from 1874 to 1893 was 167; in 1903 it had fallen to 137. In some cities the rate was very low, thus: Lyons, 110; Bordeaux, 112; Paris, 101. In fact, Paris had then and has now a lower rate than any large European city. In January, 1901, Balestre and Gilletta de Saint Joseph [1] presented to the Academy of Medicine a memoir on infantile mortality in France from 1892 to 1897, in which they showed that the chief cause of death was gastrointestinal diseases. Of each thousand deaths, 385 were due to this group, 171 to congenital debility, 147 to respiratory diseases, 50 to acute contagious diseases, 25 to tuberculosis and 222 to all other causes. In certain cities the diarrhœal mortality per thousand deaths below one year was found to be as shown in Fig. 1.

[1] M. Perret, Revue d'Hygiène et de Méd. Infantiles, 1905, iv, 160.

According to Dr. E. Ausset,[1] from 1897 to 1902, of every thousand infantile deaths in the Department of the North, 359 were due to diar-

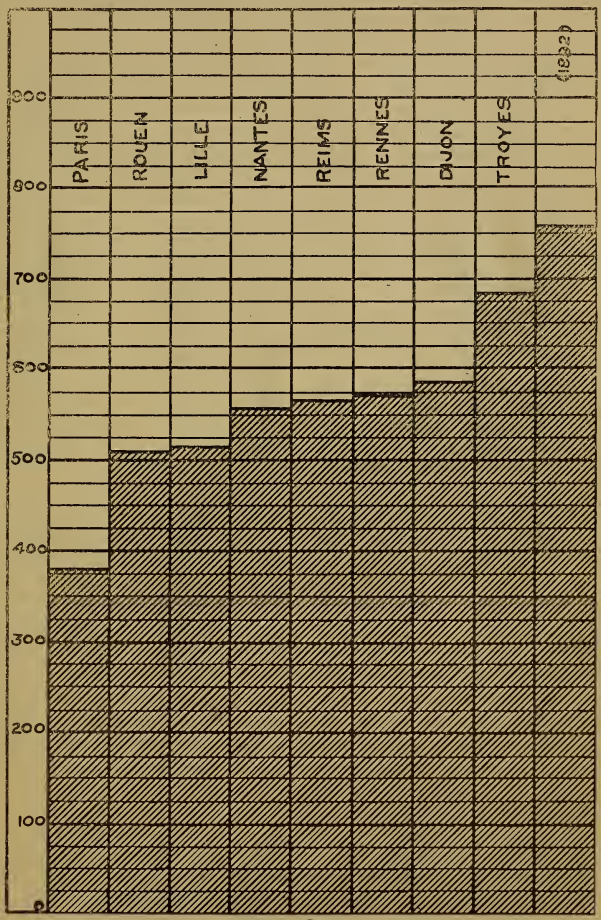

FIG. 1. — Proportion of deaths from diarrhœal diseases per thousand in various French cities. (After Perret.)

[1] Revue d'Hygiène et de Méd. Infantiles, 1905, iv, 433.

rhœal diseases, 169 to congenital debility and 160 to acute respiratory diseases. The following table shows the rate of diarrhœal diseases per thousand, which obtained in certain parts of the Department: —

TABLE III.

District of Dunkerque,	445.08
Canton Bergues,	410.61
Canton Bourbourg,	485.38
Canton Wormhoudt,	602.86
Canton Gravelines,	404.40
The two Cantons of Dunkerque,	465.00
District of Lille,	401.26
Canton Armentières,	416.66
Canton Quesnoy-sur-Deule,	420.28
Canton Seclin,	383.37
Canton Lannoy,	398.87
Canton Roubaix,	464.33
The three Cantons of Tourcoing,	457.77
The eight Cantons of Lille,	427.83
District of Hasebrouck,	395.20
Canton Merville,	363.60
Canton Steenvoorde,	394.44
Canton Cassel,	454.66
The two Cantons of Bailleul,	431.11
District of Valenciennes,	313.92
Canton Denain,	342.10
Canton Condé,	337.07
Canton Bouchain,	392.40

Of the European countries, Germany stands second in high infantile mortality, being surpassed only by Russia, where in some districts the rate exceeds 500 per thousand births, and in the whole country it reaches 270. The German rates for the five years 1901 to 1905 were as follows: 216, 184, 202, 204, 204. They were especially high in Bavaria, Saxony, Saxe-Altenburg and the Reuss principalities. In 1903, for example, the rates were as follows: Bavaria, 264; Saxony, 247; Saxe-Altenburg, 266; Reuss, elder line, 247; Reuss, younger line, 250.

In 1904, in the 323 German cities and towns having populations exceeding 15,000, the rate was 202; in 1905 it was 204. In the same year the 42 cities with populations exceeding 100,000 showed a rate of 204, and in the twelve months ended June 30, 1906, one of 198. Table IV. shows the number of births, the number of deaths under one year and the infantile death-rates of each of these cities for both periods. Of 67,633 infant deaths, 28,422 were due to diarrhœal diseases.

TABLE IV.

PLACE.	NUMBER OF BIRTHS.		DEATHS UNDER ONE YEAR.		INFANTILE DEATH-RATES.		
	1904.	July 1, 1905, to July 1, 1906.	1904.	July 1, 1905, to July 1, 1906.	1904.	July 1, 1905, to July 1, 1906.	Difference.
Aachen,	4,445	4,300	898	839	202	195	—7
Altona,	4,534	4,405	833	749	184	169	—15
Barmen,	4,902	4,597	681	605	139	132	—7
Berlin,	48,842	49,708	9,782	9,933	200	200	
Bochum,	4,060	5,060	718	818	177	162	—15
Bremen,	6,294	6,429	1,072	1,116	170	174	+4
Breslau,	14,357	14,366	3,393	3,511	236	244	+8
Brunswick,	3,684	3,397	672	668	182	197	+15
Cassel,	3,080	3,202	502	407	163	127	—36
Charlottenburg,	4,703	5,189	811	803	172	155	—17
Chemnitz,	8,178	8,314	2,509	2,253	307	271	—36
Cologne,	15,137	15,373	3,435	3,266	227	212	—15
Crefeld,	2,769	2,752	469	390	169	142	—27
Dantzig,	5,209	5,288	1,143	1,286	219	243	+24
Dortmund,	6,751	7,385	1,199	1,366	178	185	+7
Dresden,	15,153	14,297	2,914	2,735	192	191	—1
Duisburg,	4,380	7,524	845	1,137	193	151	—42
Düsseldorf,	8,524	8,868	1,736	1,667	204	188	—16
Elberfeld,	5,151	4,963	796	739	155	149	—6
Erfurt,	2,765	2,960	574	597	208	202	—6
Essen,	8,061	9,494	1,325	1,498	164	158	—6
Frankfort a. M.,	9,146	9,355	1,458	1,446	159	155	—4
Gelsenkirchen,	7,541	7,451	1,335	1,169	177	157	—20
Halle,	4,982	4,985	1,141	1,175	229	236	+7
Hamburg,	19,883	20,471	3,321	3,538	167	173	+6
Hannover,	6,550	5,908	1,100	949	168	161	—7
Karlsruhe,	3,137	3,052	656	565	209	185	—24
Kiel,	4,817	5,083	837	903	174	178	+4
Königsberg,	5,839	6,671	1,149	1,556	197	233	+36
Leipzig,	14,739	14,734	3,576	3,273	243	222	—21
Magdeburg,	6,372	6,304	1,611	1,472	253	234	—19
Mannheim,	5,176	5,170	1,196	1,053	231	204	—27
Munich,	16,743	15,787	3,831	3,432	229	217	—12
Nuremberg,	10,182	10,290	2,707	2,547	266	248	—18
Plauen,	3,744	3,745	859	779	229	208	—21
Posen,	5,008	5,123	1,112	1,272	222	248	+26
Rixdorf,	4,530	5,547	996	1,212	220	218	—2
Schöneberg,	3,021	3,200	459	480	152	150	—2
Stettin,	7,497	7,089	1,984	1,847	265	261	—4
Strasburg,	4,768	4,794	966	913	203	190	—13
Stuttgart,	5,501	6,176	1,018	1,270	185	206	+21
Wiesbaden,	2,370	2,489	347	403	146	162	+16
Totals,	332,525	341,295	7,966	67,637	204	198	—6

From the very admirable registration returns it is possible to determine the diarrhœal infantile death-rate of each city, and the percentage responsibility of the diarrhœal diseases in the production of the high general mortality. Table V. presents these figures for the twelve months ended June 30, 1906.

In Table IV. it will be noted that one city, Chemnitz, had in 1904 the unenviable distinction of an infantile death-rate of more than 300.

In Table V. it will be observed that the same city leads all others in its diarrhœal rate, 135.67, which surpasses the total infantile death-rate of Barmen (131.61) and of Cassel (127.11). Indeed, it is higher than the rate from all causes for England and Wales in 1903 (125); for Scotland in any one of fifty years (the highest record for that country being an average of 128 for the decade 1891 to 1900); for Norway (average of twenty years, 1874 to 1893, 105; 1902, 75.5); for Sweden (average of twenty years, 1874 to 1893, 118; 1902, 107); Ireland (average of twenty years, 1874 to 1893, 96.6); and is almost as high as the total rate for France (1903, 137), and for all Danish cities in 1903 (137.6).

TABLE V.

PLACE.	Infantile Death-rate.	Diarrhœal Infantile Death-rate.	Percentage of Infant Deaths due to Diarrhœal Diseases.
Aachen,	195.12	78.60	40.28
Altona,	169 12	38.37	22 69
Barmen,	131.61	47.64	36.20
Berlin,	199.83	87.99	44.03
Bochum,	161.66	50.20	31.05
Bremen,	173.59	73.92	42.92
Breslau,	244.39	98.62	40.36
Brunswick,	196.64	81.22	41.32
Cassel,	127.11	31.85	25.06
Charlottenburg,	154.75	54.35	35.12
Chemnitz,	270.99	135.67	50.07
Cologne,	212.45	93.60	44.06
Crefeld,	141.71	53.42	37.69
Dantzig,	243.19	109.87	45.18
Dortmund,	184.96	61.75	33.38
Dresden,	191.29	83.23	43 51
Duisburg,	151 12	97.38	44 59
Düsseldorf,	187.97	82.43	43.85
Elberfeld,	148.90	50.97	34.23
Erfurt,	201.69	42.90	21.27
Essen,	157 78	66.67	42.26
Frankfort a. M.,	154.67	53.13	34.30
Gelsenkirchen,	156.89	58.11	37.04
Halle,	235.71	124.77	52.94
Hamburg,	172.83	70.98	41.07
Hannover,	160.63	37.41	23.28
Karlsruhe,	185.12	86 17	46.55
Kiel,	177.65	72.99	41.08
Königsberg,	233.25	113.47	48.65
Leipzig,	222.14	121 49	54.69
Magdeburg,	233.52	100.73	43.14
Mannheim,	203.67	86.46	42.45
Munich,	217.39	95.33	44.14
Nuremberg,	247.53	113.80	45.97
Plauen,	208.01	35.25	16.95
Posen,	248.29	92.52	37.27
Rixdorf,	218.49	103.66	47.44
Schöneberg,	150.00	49.38	33.13
Stettin,	260.54	112.28	43.09
Strasburg,	190.45	92.82	48.74
Stuttgart,	205 63	74.80	36.38
Wiesbaden,	161.91	49.42	30.52
Averages,	198 16	80.34	~~21.05~~ 42.03

It will be noted, further, that 3 of these German cities, Chemnitz, Halle and Leipzig, all had a diarrhœal death-rate (135.67, 124.77, and 121.49) higher than the latest obtainable rates for all causes for the cities of Christiana (102), Lyons (110), Bordeaux (112), Amsterdam (116), Stockholm (118), Zurich (107), Geneva (117) and Basel (120).

An average diarrhœal rate of 80.34 for the 42 leading German cities may well cause public authorities, not alone in Germany, but everywhere, to stand aghast; and, especially where no records are kept, to wonder what careful and systematic registration would reveal. In these 42 cities we find that more than two-fifths of the infantile mortality is due to diarrhœal diseases, — a considerably higher rate than obtains in France.

If we take the statistics of the same place for a series of years, we find that any considerable fluctuations in the rate from all causes are due chiefly to differences in the diarrhœal rate alone, the rate for all other causes varying comparatively little from year to year. This is shown, for example, in the case of Berlin, in the following table: —

TABLE VI.

YEAR	Births.	Deaths.	Rate.	Diarrhœa.	Per Cent.	Other Causes.
1900,	49,834	11,762	236.02	4,743	40.32	7,019
1901,	50,453	11,325	224.46	4,783	42.14	6,542
1902,	49,356	8,927	180.87	2,417	27.07	6,510
1903,	47,802	9,452	197.73	3,199	33.84	6,253
1904,	48,885	9,783	200.12	2,846	29.09	6,937

Taking the years with the highest and lowest percentage mortality from diarrhœa, 1901 and 1902, we note that, while the difference in percentage is large (15.07), the number of deaths from all other causes is practically the same; and we note, further, that, whereas the difference between the highest and lowest number of diarrhœal deaths for the five years is 2,366, the figures for deaths from all other causes have an extreme range of 766.

Let us return for a moment to the American and German returns set forth in Tables II. and V.

The infantile death-rates of German cities of more than 100,000 population, during the twelve months ended June 30, 1906, which, as a rule, show an improvement over those obtaining in 1904, include not 1 in excess of 300; our meagre returns show no fewer than 9, with 1 in excess of 400. The highest German rate is that of Chemnitz (270.99), which rate is surpassed by no fewer than 15 of our registration cities and

towns. Only 2 of the 42 German cities in Table V. show a rate higher than 250; Table II. shows 19. Seventeen of the German cities show

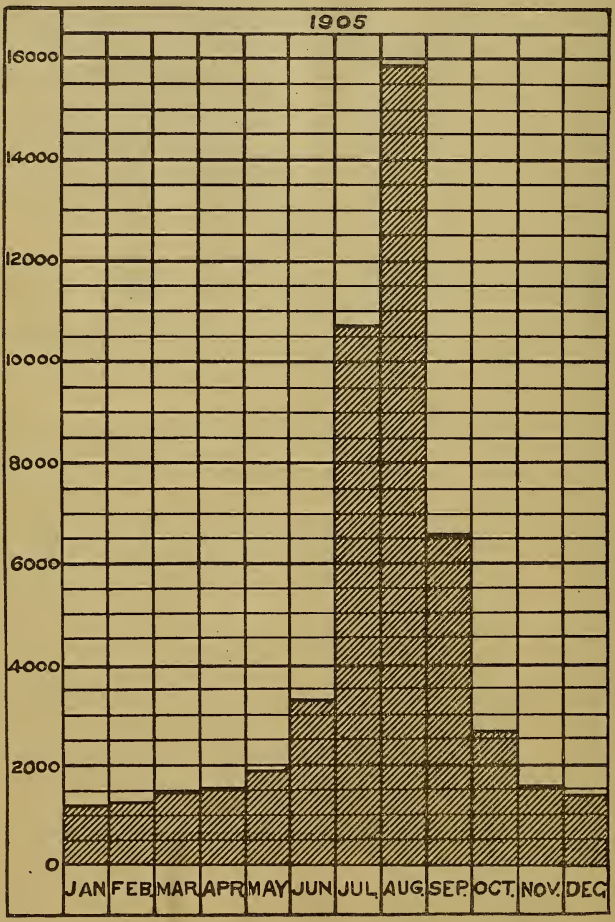

FIG. 2. — Number of deaths of infants from diarrhœal diseases in German cities and towns of more than 15,000 people, by months.

rates higher than 200; our returns show 57. It is true that, in making these comparisons, we are dealing not with populations of the same size,

the German cities having populations in excess of 100,000, and ours being in most cases far smaller; but the home returns are the best available, and suggest that, with universal registration, our showing would

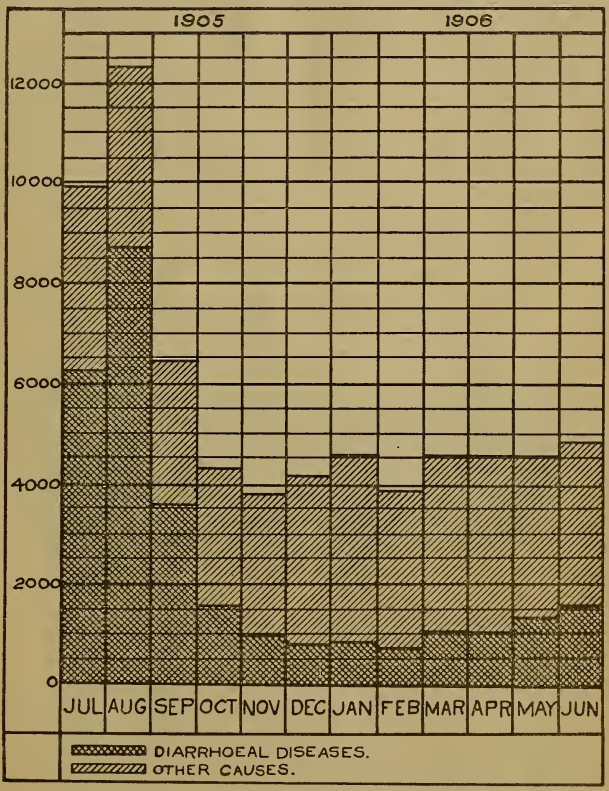

FIG. 3. — Infantile mortality of all German cities of more than 100,000 population, from diarrhœal and non-diarrhœal diseases, by months.

be anything but satisfactory and commendable. And it would seem probable, too, that complete returns would show the same enormous influence of diarrhœal diseases and of artificial feeding that is shown in those countries which give these matters proper consideration and study.

III. Seasonal Distribution.

When we study the seasonal distribution of infantile mortality we find enormous fluctuations, the summer months showing a sudden upward curve and the autumn months an equally sharp decline. Thus, in 1905, in the German cities and towns with populations exceeding 15,000, there were registered 628,060 births and 128,035 deaths under one year, — a rate per thousand of 203.8. The deaths from diarrhœal diseases ranged, according to months, from 1,192 in January to 15,863 in August, after which month there was a sharp fall. The rise and fall are shown in Fig. 2.

It will be observed that Fig. 2 has to do with deaths from diarrhœal

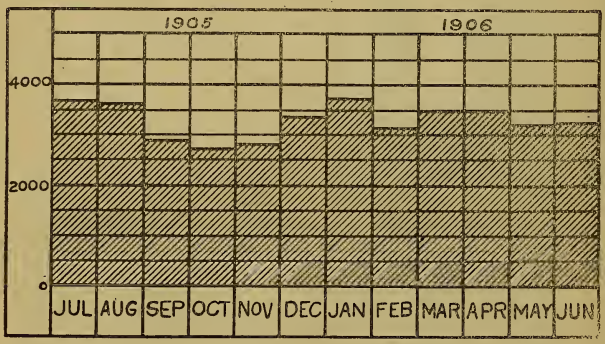

Fig. 4.—Infantile mortality of all German cities of more than 100,000 population, from non-diarrhœal diseases, by months.

diseases alone. Fig. 3 shows the total infantile mortality and the diarrhœal mortality in German cities of more than 100,000 people, by months, during the twelve months, July, 1905, to June, 1906, inclusive, the double-hatching indicating diarrhœal mortality.

Still further to illustrate the comparatively constant death-rate from non-diarrhœal causes, Fig. 4 is presented.

Referring to Table V. it will be observed that the city which showed the highest percentage mortality from diarrhœal diseases was Leipzig. A study of its birth-rate, its infantile death-rate and its diarrhœal infantile death-rate, by months, reveals the fact that in August the proportion of deaths to births was 570 : 1,000, and of diarrhœal deaths to births, 430 : 1,000; whereas in February the proportions were, respec-

tively, 131 : 1,000 and 37 : 1,000. The two rates by months are shown in Fig. 5.

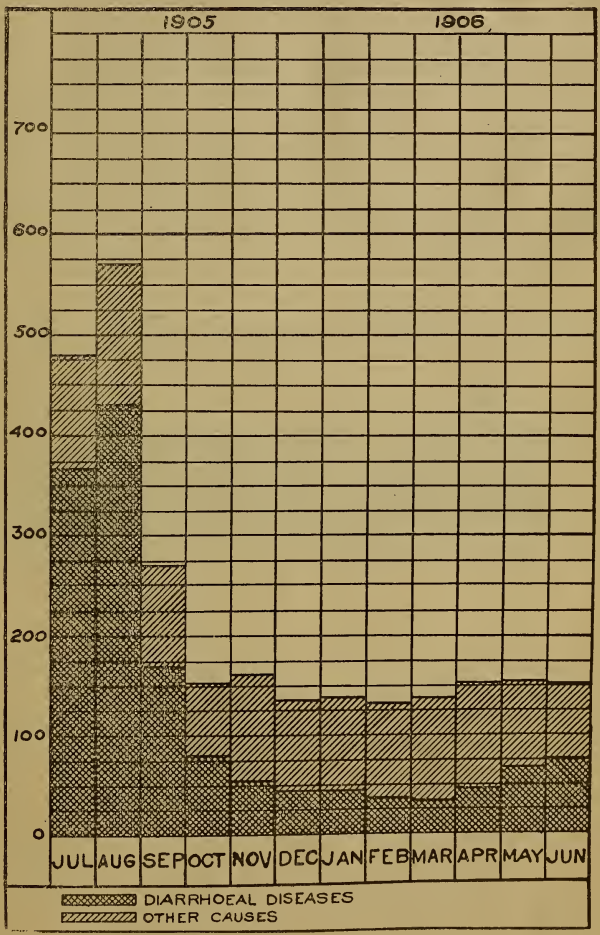

FIG. 5. — Infantile death-rates and diarrhœal infantile death-rates of Leipzig, by months.

That the non-diarrhœal death-rates of a city are subject to no very wide fluctuations from month to month is shown graphically by Fig. 6.

From the facts and figures thus shown it might be inferred that all infants under one year of age are in great danger during the hot summer months, but this is far from being the case. Not the three summer months, but the first three months of life, are the dangerous period. The report of the Registrar-General of England and Wales for 1904 shows that 49 per cent. of the infantile mortality occurs during the first three months, 20 per cent. in the second three months and 31 per cent. in the third and fourth three months of life. In Berlin, in 1904, of 9,783 infant deaths, 3,175 occurred in the first month of life, 1,120 in the second and 949 in the third; thus, 5,244, or 53.6 per cent., occurred in the first three months. In 1903, of 9,492 deaths, 5,206 (or 55.08 per cent.) occurred in the same period. The percentage for the years 1900, 1901 and 1902 were respectively 53.21, 53.47 and 55.83. And yet, in Germany, in 1905,

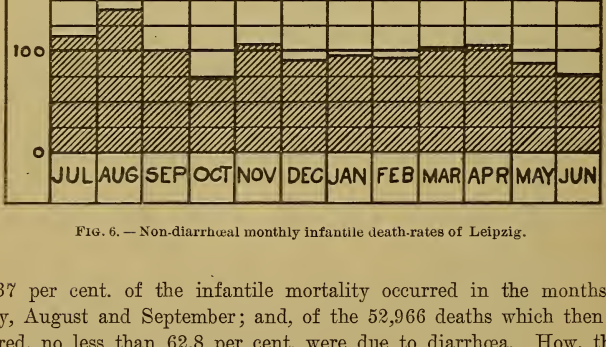

FIG. 6. — Non-diarrhœal monthly infantile death-rates of Leipzig.

41.37 per cent. of the infantile mortality occurred in the months of July, August and September; and, of the 52,966 deaths which then occurred, no less than 62.8 per cent. were due to diarrhœa. How, then, can this seasonal distribution and the age-periods be reconciled? The answer is by no means difficult. In the first place, the cause of infantile mortality that stands second to diarrhœal diseases is set forth as congenital debility. It knows no season, and its victims, whether born in January or August, die largely on their first day and in their first week or month. These deaths are naturally distributed fairly evenly throughout the year, and those from other non-diarrhœal causes which have seasonal fluctuations tend to balance one another and maintain a fairly even line. With the vast majority of the others the chances of life and death depend upon the method of feeding; and the older an infant is when hot weather comes on, the better its chance of life; for after eight

or nine months of life the possibility of going through a hot summer unharmed, however fed, is vastly greater than that of the infant born in spring or summer and fed artificially.

IV. Influence of Method of Feeding.

In 1903 the Prussian infantile death-rates ranged from 143.82 for Barmen to 357.18 for Dantzig. In 1904 Barmen was again the lowest, with 139; and for the twelve months ended June 30, 1906, was surpassed in this respect only by Cassel, which city had made great improvement over its record for 1904, — 127, against 163. The enviable position of Barmen in this particular is attributed by Kriege and Sentemann [1] chiefly to the high percentage of breast-feeding, namely, 63, with 15 per cent. partially breast-fed and 22 per cent. bottle-fed. In the city of Graz, in the years 1903 and 1904, there were, according to K. Helle,[2] 170 deaths of infants from diarrhœal disease. Of this number, but 4 were breast-fed, 48 were partly breast-fed, 117 were wholly bottle-fed and in 1 case the method was unknown.

In Australia the authorities are gravely concerned. According to Dr. A. J. Turner,[3] during the summer months in Brisbane more than half of the bottle-fed babies die; and Dr. Eleanor Bourne of the Brisbane Children's Hospital says that the majority of babies entered suffer "from the effects of improper feeding, and nothing else." And Mr. P. E. Muskett of Sydney has asserted that, of 303,070 infants dying in Australia and New Zealand in the course of nineteen years prior to 1903, half might have been saved.

Dr. Arthur Newsholme,[4] M.O.H., for Brighton, Eng., asserts that breast-fed infants contribute but one-tenth of the diarrhœal infantile mortality; and Dr. W. J. Tyson [5] states that three-fourths of the 150,000 infants dying annually in Great Britain from all causes are bottle-fed. Dr. G. F. McCleary,[6] M.O.H., for Hampstead, says that the infantile mortality dependent upon defective infant feeding is, broadly speaking, a mortality of hand-fed infants.

Dr. J. E. Sandilans,[7] inquiring into the method of feeding of 695 infants in the Borough of Finsbury during the first nine months of life, ascertained that, of the 139 that died of diarrhœal diseases, but 16 per cent., and of those that survived, 69 per cent., were breast-fed.

In Munich, in 1903, of the 4,075 infants that died, investigation showed that 3,395 (or 83.3 per cent.) were artificially fed. Most strik-

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[1] Centralb. f. allg. Gesundheitspflege, 1906, xxv.
[2] Archiv f. Hygiene, 1905, lvi, 18.
[3] Lancet, 1906, i, 1438.
[4] Journal of Hygiene, April, 1906.
[5] Journal of State Medicine, September, 1904.
[6] Lancet, Aug. 18, 1906.
[7] Journal of Hygiene, January, 1906.

ing and instructive of all, however, are the facts revealed by the very admirable statistical returns of the city of Berlin, and by the researches of Budin concerning the infantile mortality of Paris during 1898. From the former it appears that in Berlin, during the five years 1900 to 1904, less than one-tenth of the infantile mortality occurred among those fed solely at the breast. The figures for each year are shown in Table VII.: —

TABLE VII.

YEAR.	Number of Deaths of Infants whose Method of Feeding was ascertained.	Number Breast-fed.	Percentage solely Breast-fed.	All Others.
1900,	9,558	895	9.36	90.64
1901,	9,338	856	9.17	90.83
1902,	7,027	768	10.90	89.10
1903,	7,680	723	9.41	90.59
1904,	7,780	753	9.68	90.32

Budin's research concerning the infantile mortality of Paris during 1898 shows not only the enormous preponderance of deaths among the artificially fed, but its seasonal and weekly distribution (Fig. 7).

V. CLASS MORTALITY.

High infantile mortality is largely a class mortality, as is evident when one studies the returns of individual communities. It is highest, as a rule, in cities and towns whereof the population is largely ignorant and poor, and where women are employed to a great extent in mills and other industrial establishments, and help in this way to pay the family expenses. When pregnant, they work as long as possible up to the time of confinement, after which they return as soon as they can, leaving their offspring to the care of others and to be brought up on the bottle. In Massachusetts, for example, the cities with the highest infantile mortalities, as shown in Table II., are "mill towns;" those with the lowest are chiefly residential in character, and hold out no opportunities for the employment of married women, or their industries are of such a nature that the male wage-earners can properly maintain their wives at home as helpmeets in the true sense of the term. In other States and in foreign countries the same is commonly true; but in some of the States with large negro populations ignorance and poverty have an equal or greater influence.

At the National Conference on Infantile Mortality, held in London in June, 1906, Dr. George Reid[1] contrasted the infantile mortality of

[1] Lancet, 1906, ii, 423.

two districts, identical in health conditions, but with the important difference that, in one, women are largely employed in industrial pursuits;

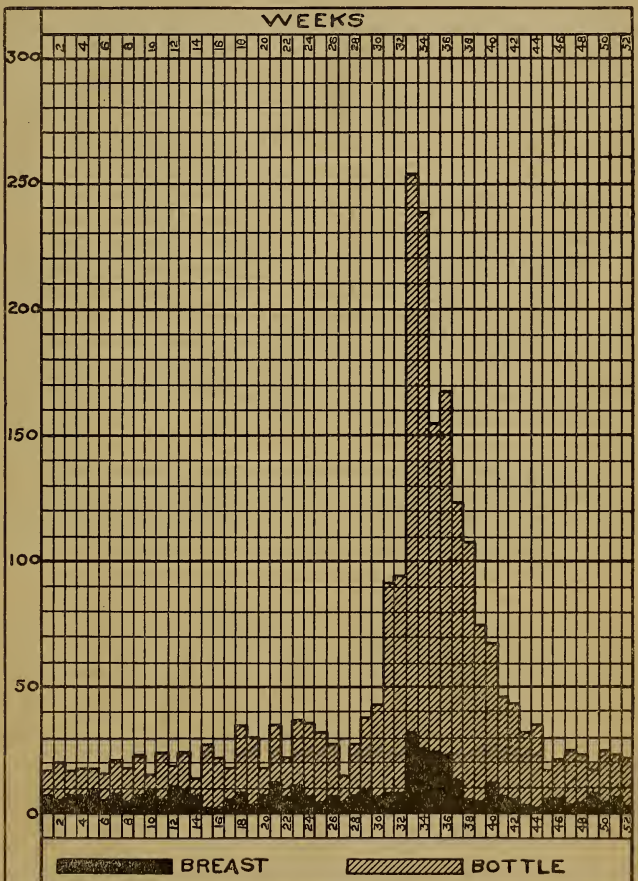

FIG. 7. — Infantile mortality of Paris during 1898, by weeks, showing influence thereon of artificial feeding. (M. Perret, Revue d'Hygiène et de Médecine Infantiles, 1905, iv, 167.)

whereas, in the other, where mining and iron-working are the principal industries, there is practically no employment for them. From figures obtained from the Registrar-General he divided the artisan towns into three groups: —

I., those in which the proportion of employed married and widowed females between the ages of eighteen and fifty years reached or exceeded 12 per cent. of the total number of women of those ages; II., those in which the proportion was from 6 to 12 per cent.; and III., those in which it was below 6 per cent. In group I. the infantile mortality was highest, and in group III. it was lowest; and this order was found to obtain constantly since 1881. Thus, in the decades 1881 to 1890, 1891 to 1900 and four-year period 1901 to 1904, the average yearly infantile mortality rates of group I. were 195, 212 and 193; of group II. 165, 175 and 156; and of group III. were 156, 168 and 149.

Further to illustrate the fact that we are dealing with a class mortality may be instanced the observations of K. Helle [1] concerning the station of 170 infants that died of diarrhœal diseases in Graz during 1903 and 1904. Not one belonged to a rich family, and but 9 to the well-to-do class; whereas 49 were of the poor and 112 of the very poor. Thus the percentage division among the four classes was respectively 0, 5.3, 28.8 and 65.9. Again, according to H. Neumann,[2] in Berlin, in 1903, of 2,701 infantile deaths investigated, 1,792 occurred in one-room dwellings, 754 in two-room, 122 in three-room and 43 in larger dwellings.

Illegitimacy, where common, has doubtless a very great influence generally on infantile mortality; and yet in some foreign communities where foundlings are cared for in institutions the mortality of this unfortunate class is smaller than that of the legitimate.

VI. Insanitary Dairying.

Returning now to the consideration of methods of feeding, the question arises as to why the artificially fed show so much higher mortality figures than the breast-fed. In the first place, each mammalian species has its own natural food supply. The natural food of the infant is human breast-milk, which differs materially in character and composition from cows' milk, which is the principal substitute therefor. It differs chiefly in the character of its proteids and to a slight extent in the nature of its fat; but by means of the well-known method of modification, cows' milk can be converted into an acceptable substitute, provided it is of proper quality. Most unfortunately, however, cows' milk is almost universally far from being of proper quality when it reaches the home of the consumer in large cities and towns, and even in the rural districts where it is produced. Indeed, it is unfit for infants' use in the great majority of cases before it leaves the premises where it is drawn; for the condi-

[1] Archiv f. Hygiene, 1906, lvi, p. 15. [2] Deut. med. Woch., 1904, p. 1723.

tions which obtain at dairies generally in all the countries of the world, with few exceptions, are such as to insure its immediate seeding with various species of harmful bacteria; that is to say, the great majority of dairies are dirty in appointments and methods.

In this country, wherever public authorities and private associations have undertaken investigations of the conditions under which the public milk supply is raised, these have been found to be often of the most revolting character, and in a number of States and cities much is being done in the line of compelling improvement. Often the objectionable conditions are evenly distributed throughout the dairy; everything is dirty, — the premises as a whole, the barn, the tie-up, the cows, the milkers, the utensils, the water supply and every process from the cow to the can. Where everything is dirty, and carelessness in handling is the rule, it is hardly to be expected that the product will be clean and wholesome; and when to the original handicap are added the changes due to improper conditions during long transportation and storage, frequent handling, common methods of adulteration and lack of care at the point of final delivery, it is not a subject for wonder that when it reaches the stomach of the infant it has acquired a more or less poisonous character.

In England the conditions of dairying are, if anything, far worse than in this country, owing largely to the extent to which local authorities are bound by official red tape. The milk of London, for example, comes largely from a distance, and is subject to no control whatever by the metropolitan authorities; and even where it is produced the local authorities are equally without power. According to Dodd,[1] the steps necessary to stop the introduction into London of an infected milk supply include the obtaining of an order of inspection from a justice in the district where the farm is situated, inspection by a veterinary surgeon, report to the authority, service of notice on the farmer to appear and show cause why his milk should not be excluded from sale, and condemnation by the authority. But even then the dairyman may refuse to allow inspection, on pain of summons and fine of not exceeding five pounds, and in the meantime may sell his diseased cows to another, whereupon the process must begin again as before. Moreover, inasmuch as London comprises no fewer than 29 districts, in order to exclude an infected supply from every part of the metropolis it would be necessary for the 29 medical officers to go to the place of production and obtain 29 separate orders of inspection, 29 reports, 29 orders of notice to show cause, etc. And, despite the efforts of the London County Council, in 1902, to acquire authority to exclude infected milk from the whole county

[1] The Problem of the Milk Supply, London, 1904.

of London, the bill was killed in the House of Lords, on account of the opposition of certain borough councils. The provincial sanitary authorities are equally powerless, for although, under the Infectious Diseases Prevention Act of 1890, they can exclude infected milk, they must first give notice to the county council concerned and to the Local Government Board, and must withdraw the order when the sanitary authority or medical officer of health is satisfied that the supply is changed or the source of infection is removed, perhaps to another county. Dodd says that these orders are, generally speaking, a dead letter in most rural districts, since the local authorities will not enforce them, because they are not for the benefit of their own but of distant populations.

In this country, happily, these things are better ordered in those States which have adequate health laws. In Massachusetts, for example, the local board of health of even the smallest town has power to exclude the milk of an infected or simply dirty dairy, whether that dairy be local or far distant, and without anything more than its own order.

One may obtain a fair idea of the conditions which obtain in English dairies by reference to reports and papers presented by various health officers and other writers. Dr. Groves [1] says: "The conditions under which milk is collected in this country, especially by small dairymen, are simply too awful." Hime,[2] describing conditions as he found them at the farms which supplied Bradford with milk, states that he saw children's napkins washed in milk-cans; and "once I saw articles even yet more foul being washed in a milk can which was to be used an hour later for dairy purposes." The dairies of Staffordshire appear to be far from deserving commendation. Dr. George Newman [3] quotes the medical officer of Stoke-on-Trent, who stated in his report for 1900 that nearly every cow shed inspected was overcrowded, badly lighted, and even not lighted at all; unventilated, and with air so foul as to repel a visitor; dirty as to walls and floor; undrained, and containing filthy cows and accumulations of manure. Dr. Reid, M.O.H., for Staffordshire, wrote Newman in June, 1903: "I may mention generally that I very rarely come across a dairy farm which is satisfactory as regards the cow sheds; most are ill-lighted, overcrowded, badly ventilated and badly drained."

The report on the health of Manchester, for 1902, quoted by Dodd, says that the great majority of the farms of Cheshire, Derbyshire and Staffordshire are unfit for dairying, and that the cows and sheds are very dirty and many of the cows are tuberculous. Newman [4] says that, in 1901, 9.2 per cent. of the cows supplying Manchester from outside the

[1] Journal of the Sanitary Institute, May, 1905, p 229.
[2] British Medical Journal, 1903, ii, 1669.
[3] Public Health, February, 1904, p. 258.
[4] Loc. cit.

city were tuberculous; and, in 1902, 8.4 per cent. The great majority of farms visited were in a very dirty condition, and totally unfit for the production of milk. The veterinary surgeon reported that the Cheshire farms were distinctly bad, but that the farms in Derbyshire and Staffordshire were decidedly worse. Dr. G. F. McCleary,[1] M.O.H., for Battersea, says: "Cows' milk, as usually supplied in this country, may be, and often is, a source of grave danger. It is often grossly contaminated, the contamination taking place at the farm, in transit, in the milk shop, on the milk round, and last, but certainly not least, in the home of the consumer."

Cumulative evidence concerning the unfitness of English dairies might be quoted almost indefinitely, did space permit, and were it necessary. The conditions obtaining in Ireland are said to be even worse. Thus, Bulstrode and Tunnicliffe [2] have made a very unfavorable report, in which the filthy state of the Dublin dairies comes in for special mention.

In France and Germany the dairy conditions rank in the main with those of England. The lack of control of French dairies is the chief impelling influence in the establishment of the numerous milk depots and the furnishing of pasteurized milk to the poor. In Germany the great majority of dairies are dirty and badly managed; and, although many of the cities have established regulations, few enforce them.

According to A. Reinsch,[3] in 95 cities, with populations in excess of 40,000, 81 have milk regulations more or less in agreement, but concerning the presence of dirt these vary widely. Some require that there shall be no visible sediment on standing two hours; others, that the amount shall not exceed 15 milligrams per liter; but in 61 no attention is paid to the amount of dirt which may be present.

Perhaps the worst conditions as to milk supply are those which obtain in India. According to an article in the "Lancet," [4] a committee of the Corporation of Calcutta, in a report on the milk supply of that city, stated that in a majority of cases "the cattle were in a filthy condition, and were standing in offensive-smelling filth inches deep; their udders were covered with muck; the cattle were packed together so closely that there was no room for them to lie down; the sheds were painfully ill-ventilated, the entrances being blocked by platforms on which the cow men slept; and all the air holes being closed up with mud bricks;" and Mr. D. R. Bardi [5] asserts that in Bombay, where milk is extensively

[1] Journal of the Sanitary Institute, May, 1905, p. 225.
[2] Parliamentary Paper. (Cd. 833), Appendix IV.
[3] Die gesetzliche Regelung des Milchverkehrs in Deutschland, Hamburg, 1904.
[4] November 18, 1905, p. 1512.
[5] Transactions of the Bombay Medical and Physical Society, vol. ix, No. 1, quoted by the Lancet, 1905, ii, 1853.

adulterated with polluted water, the infantile death-rate reaches the enormous height of 786.5.

In the Scandinavian countries, whose infantile death-rates are conspicuously low even during the hotter months, far more attention is paid to dairy cleanliness and methods than anywhere else in the world; and yet, with all their care, there is room for much improvement, as one can learn from personal observation at first-class dairy farms and milk-distributing concerns in Denmark.

It may be asked: If infantile diarrhœas are due to milk produced, handled or stored under improper conditions, why is it that they are so vastly more prevalent in July and August, when, at least, the cows at pasture are more likely to be clean than when housed? Milk produced under ordinary conditions is sure to contain large numbers of bacteria per cubic centimeter before the operation of milking is completed; under favoring conditions, these organisms multiply enormously within a few hours and the one favoring condition of growth is warmth. If milk is cooled at once to 45° F., and kept at about that temperature until needed for use, the original bacteria not only may not have increased materially, but may even have diminished in numbers; but at how many dairies in every hundred is milk properly cooled, and to what extent is milk kept cool during long-haul transportation, retail delivery and home storage? How many small dairymen can afford to use ice, when their product yields them so small a margin of profit? How many would use it in any event, unless compelled to?

Milk "cooling" in cans immersed in a tub or trough containing water, unchanged perhaps for days at a time, and exposed to the rays of the broiling August sun, is a common sight in the country. After collection and delivery at the railroad station the cans may stand a long time on the platform in the sun, and then may make a long trip in a car not provided with ice. Next comes the handling by the retailer, and perhaps another period of storage in a stable; then delivery of small cans and jars, left on the customers' doorsteps; and, lastly, the storage in the home, perhaps without ice, — for it must be remembered that cholera infantum is largely a disease of the poor, — with exposure to dust and dirt and flies. Under these very common conditions, it is then not strange that a city's milk supply is so often richer in bacteria than its sewage.

Far less infantile diarrhœa occurs in the country than in cities and large towns, in proportion to population, because the milk used in the country is at least comparatively fresh, while that used in the towns is in large part decidedly stale and unfit for drinking. It is hard to convince the dairyman of less than average intelligence that dirt in milk breeds disease. He will tell you that he was brought up on it, as was

the entire neighborhood; he points out the living adults and children, forgetting the infant dead; he cannot believe that a mere trace of visible cow manure can do any harm, or that bacteria which are so small that billions of them may be suspended in a teaspoonful of milk can be large enough to accomplish any results; he thinks clean milk a fad; and complains, with right, as a rule, of the meagre reward of his labors. He has, most likely, no near-by source of ice supply; he cannot buy ice out of his small profits, — quite likely he would not buy it, anyway; and his method of cooling is, in his opinion, quite good enough. And thus it happens that the unequal seasonal distribution of infantile diarrhœa is largely a consequence of inadequate cooling and storage of milk.

VII. Poisonous and Infected Milk.

Concerning the ways in which milk becomes seeded with bacteria at its place of origin it is hardly necessary to enlarge, for they are now too well known to the profession and the intelligent laity; but there are certain points about dirty milk which are not yet generally understood. Not all the bacteria that gain access to milk at the farm are capable of causing injury to the consumer; in fact, the great majority of the more than 200 varieties isolated produce no harmful effects. Many species shorten the commercial life of milk by causing souring and coagulation, and these have been likened by Professor Vaughan to the red lanterns used as danger signals on highways. While certain other more hardy forms are secreting or excreting toxic substances, and others of pathogenic nature are multiplying from hundreds to millions and tens of millions, the souring bacteria are manufacturing lactic acid from the milk sugar, and bringing about changes in taste and consistence which render the milk non-potable. They are easily destroyed at pasteurizing temperatures which do not affect the growth and activity of the various spore-bearing species, which peptonize and produce toxins; and so in their absence these others can continue producing changes in milk, which grows more and more stale and more and more dangerous, without becoming sour; and so long as milk remains sweet, so long is it considered by the world in general as fit for household use.

There is still another group of bacteria commonly present, of vastly more importance than the peptonizing species; namely the pyogenic species, which are associated with that most common of all bovine diseases, garget or mammitis, and with other similar pathological conditions, as "yellow galt." The most common and most virulent of these is the streptococcus, which finds in warm milk a most favorable culture medium for rapid multiplication. Thus, Petruschky has shown that at room temperature (68° F.) a streptococcal content of 300 per cubic

centimeter may increase in twenty-four hours to one of 10,000,000; but the same milk kept at 50° F. yielded but 30,000 per cubic centimeter, or but three one-thousandths as many. Escherich and others have noted the same rapidity of multiplication. Conn states that in fresh milk the majority of bacteria are streptococci which come from the udder; and others have shown that these organisms may be present in the ducts even when there is no actual inflammatory process going on. Thus, Uhlmann[1] studied more than 800 sections of 35 teats of cows, goats and sheep, and found bacteria, with micrococci predominating in every section, and most numerous in the teats from cows. Bergey[2] studied the milk of several cows during an entire period of lactation, and concluded that, once an udder becomes infected with pyogenic bacteria, the infection tends to persist over several periods of lactation. In another investigation, in which a large number of milk samples, drawn in sterile tubes, were examined, Bergey[3] found that more than two-thirds contained bacteria, the prevailing forms of which were the pyogenic organisms, more particularly streptococci. Careful study of these organisms revealed no definite difference between them and the streptococci concerned in pathological processes in man. They were found in nearly all the samples which contained pus, and in some from cows in which no inflammatory process could be discovered.

Garget being the commonest of bovine diseases, often existing without marked symptoms and only discovered by accident; and the milk of cows with no inflammatory process going on, but with infected milk ducts, often containing pyogenic organisms, one would infer that a large part of the public supply ought to yield considerable numbers of streptococci on bacteriological examination; and the inference would be correct. Bergey[4] found them in half the samples examined from the Philadelphia supply. Rabinowitch found them in abundance in samples from Berlin, even from the model dairies. Kaiser[5] examined 30 samples from Graz, and found that all but 7 contained streptococci, either alone or associated with staphylococci and other organisms; that is to say, 76.7 per cent. were infected; and the number of streptococci present ranged from 100,000 to 100,000,000 per cubic centimeter. Eastes[6] examined 186 samples of London milk, and found streptococci in about the same proportion, — 75.2 per cent. Foulerton[7] found staphylococci in 28 per cent. and streptococci in 32 per cent. of samples of the supply of Finsbury. The worst showing is that made by Leipzig samples in the hands

[1] Inaugural Thesis, Jena, 1903.
[2] University of Pennsylvania Medical Bulletin, July-August, 1904.
[3] Pennsylvania State Department of Agriculture, Bulletin 125, 1904.
[4] American Medicine, April 20, 1901.
[5] Archiv f. Hygiene, 1906, lvi, 51.
[6] British Medical Journal, 1899, ii, 1342.
[7] Brit. Med. Jour., 1904. ii, 424.

of Brüning;[1] and be it remembered that in Table V. the city showing the highest percentage of infantile deaths due to diarrhœal diseases is Leipzig. Brüning found streptococci in numbers ranging from 100 to 1,000,000 per cubic centimeter in 26 of 28 samples (93 per cent.).

The pyogenic bacteria are by no means the sole exciting causes of infantile diarrhœas, although they appear to be very largely responsible. In addition to these and the peptonizing species are the several types of the dysentery bacillus, Proteus vulgaris, Bacillus pyocyaneus and others. Nor are the summer diarrhœas the only disturbances caused by streptococci and other bacteria; but these concern children of larger growth and adults.

VIII. The Remedy.

What is the cure for the annual waste of human life due to stale and infected market milk? The most obvious answer would be, The discontinuance of cows' milk in feeding infants; but unfortunately, bad as it is, it is the only available substitute or basis for a substitute for human milk. Then why not encourage breast-feeding? It is an unfortunate fact that a very large proportion of mothers cannot, if they would, suckle their offspring, owing to their own physical defects, which are largely hereditary. Von Bunge's statistics, drawn from all parts of Europe, show that women unable to nurse are commonly daughters of alcoholics; and he states that if two generations have been alcoholic, the third will almost certainly be unable to suckle their children. The proportion of mothers defective in this respect is commonly stated to be about half; but Bunge asserts it to be not more than a quarter.

In the lower strata of society, breast-feeding is to a large extent interfered with by the economical and sociological conditions which compel married women to work in industrial establishments; and in the upper strata it is neglected on account of its interference with what are miscalled social duties. The employment of married women may or may not be necessary; but the observation of the Rt. Hon. John Burns, president of the Local Government Board, at a national conference on infantile mortality, held in June, 1906, that it tends to make loafers of the husbands and hoodlums of the children, who lose the restraining influence of a mother's constant care, is doubtless true. He asserts that infantile mortality often rises with full employment and high wages, because of greater opportunities for obtaining alcoholic drink; and falls with poor trade. "Married women's labor makes loafers, is an individual injury, a social mistake and a commercial blunder."

In France and Italy, the advantages of breast-feeding receive govern-

[1] Jahrbuch f. Kinderheilkunde, 1905, lxii, No. 1.

mental and commercial recognition. In France, it is a common practice in factories to post placards proclaiming the advantages of breast-feeding, and offering every facility to women to nurse their infants, including special rooms; and the women are allowed leave of absence at intervals for this purpose. In Italy, such a room is obligatory in every establishment employing more than 50 women. In Vienna, an association of physicians and others has been formed, to encourage suckling and to instruct mothers concerning the relation of methods of feeding to infantile mortality.

It has been observed that infant mortality among the Jews is comparatively low; and the reason therefor is doubtless the fact that among that race it is regarded as disgraceful for a man to allow his wife to work in a factory, and deprive her children before their birth and afterward of a mother's care.

In view of the inability plus uncompromising disinclination of a large proportion of mothers to nurse their infants, it becomes necessary to choose the best available substitute, which happens to be cows' milk. Now, cows' milk, as we have learned, is, generally speaking, a dirty substance, unsuited hygienically or esthetically to use as a human food. Fortunately, its pathogenic power can be removed or very greatly impaired by heating, for it appears on the evidence to be true that the toxic substances of stale milk are destroyed, like the pathogenic organisms of infected milk, in the process of pasteurization. But is pasteurization the remedy? Is it not better to start with a clean supply, than to sterilize the pus and dung just before consumption? Besides, the ignorant poor will not pasteurize milk with any regularity or great care, and too much reliance should not be placed upon municipal milk stations and philanthropic distribution.

Space will not permit, nor is it necessary to enter upon, a discussion of the injurious influence of pasteurization upon the natural properties of unheated milk; nor can the question of milk stations and "gouttes de lait" be considered here, however valuable we recognize these institutions to be; and this paper will close with a plea for clean milk at the farm, and proper methods of transportation, storage and delivery.

Who is to blame for dirty milk? Those unfamiliar with the conditions will answer that it is the farmer. While it is true that the original seeding, either with the pus and streptococci of garget or with the hundreds of varieties of bacteria incidental to dusty and dirty cow barns, cow dung, dirty clothes, dirty hands, dirty cows, dirty utensils and dirty methods, takes place at the farm, the real responsibility lies with the consumer and the middleman. The consumer is disinclined to pay a fair price for this valuable article of food. Everything else may

advance in price, — meats, coal, sugar, gasolene, wages, oats, pearls and theatre tickets, — and the advance is met with at most some futile grumbling; but whenever a rumor goes out that milk is to cost an extra cent per quart, loud outcries are heard, and always, ostensibly, in behalf of the poor. We do not see the authors of these outcries moved to pity for the poor on account of advances in the cost of flour and potatoes or in rent; it is always milk. Now, it happens that the poor are not large consumers of milk outside of the amount necessary for infant feeding, and that the small additional burden of perhaps a cent a day could go on for a long time before the whole would amount to the cost of the smallest casket or of the services of the most considerate undertaker. But it is not consideration for the poor; it is an ingrained opposition to pay more for milk than was paid a quarter of a century ago. The general population regards the pure, clean milk problem as a fad of theorists and of gentlemen farmers who keep cows instead of yachts. It does not know the importance of clean milk, and unfortunately is, in large part, able to point to the fact that for a month, or a year, or a boyhood, it lived on a farm and milked a cow, and knows all about it. The public needs proper education that clean milk is a necessity, and that infant sickness and funerals can be reduced at least 40 per cent. at almost no cost in comparison. As to the middleman, it may be said that his share in promoting infantile mortality is as great as, but no greater than, that of the customer. He is to some extent a necessary evil, but he has been eliminated in some places, and can be in others. Naturally, he wants as much profit as he can get; he would like to raise his price; he would like to pay the producer less. The producer must bear the burden of increased cost of grain and hay; it is for him to provide the ice, for him to provide the labor involved in maintaining general cleanliness and proper methods. Everything is put upon the producer; and, unless his herd is large and his farm extensive and otherwise profitable, he cannot bear it and produce clean milk. Direct delivery to the properly enlightened customer would make the clean-milk problem simple for the small producer; and so would co-operative handling, so much in vogue in the relatively most important dairying country in the world, — Denmark, where the incorrigibly or deliberately dirty producer cannot dispose of his supply.

The general elimination of the middleman is, of course, not a possibility, especially in the case of large cities which are supplied from areas a hundred or hundreds of miles away. But associations satisfied with a reasonable profit, like the two large companies of Copenhagen, for example, can handle the matter with justice to all concerned. The customer must pay a fair price, the producer must receive one, and the

distributing centre should make a reasonable return on its capital. If the milk of a farm where filth is the rule; where the cows are not free from garget and other diseases, and are not regularly inspected by a competent veterinarian; where ice is not used in cooling; where dairying methods are faulty, and other objectionable conditions obtain, — if the milk from such a place is declined, that of the clean dairy is not handicapped by an unfair competition.

It is said that model farms exist for the well-to-do, without whose patronage they would invariably fail; that they cannot be made to yield a profit in competition with ordinary farms. A model farm properly manned certainly cannot compete on equal terms with a filthy farm, where no attempt is made to conduct the business in a decent manner, especially if the customers are indifferent. The dirty producer can even afford to cut prices and take customers away from the other, if customers care to save a cent, and get a bonus of pus and cow dung. But one does not need to run a model farm in order to have clean milk. Concrete floors and walls and monitor-top barns are not absolutely essential, however satisfactory, in the production of clean milk. A clean man can keep a few healthy cows clean in a clean barn, and use clean utensils and decent methods, and make clean milk, without increased cost except in summer for ice; but with large herds the employment of others becomes necessary, and perhaps one or more men must give their whole time to keeping the cows, the premises and the utensils clean. The dirty dairyman dispenses with these, and thus has an unfair advantage in competition. If the product of dirty farms, large and small, were refused a market, model farms and small, clean, ordinary farms could thrive on equal terms. A large model dairy farm with an enlightened clientèle can be profitably operated, even in competition with unclean farms; and this is done in many places. But they supply but small fractions of the populations in which they operate; and what is needed are clean farms everywhere, supplying profitably entire populations educated to refuse dirty milk at any price.

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